

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Camee S. Thompson Examiner #: 79244 Date: 11/15/04
 Art Unit: 574 Phone Number 301 571 272-153 Serial Number: 101 718,083
 Mail Box and Bldg/Room Location: REM Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Organic Electroluminescence Devices using double spiro organic compounds

Inventors (please provide full names): Kong Kim; Sehwon Son; Seokyeon Yoon; Jae Bae;
Youn-Jae Lee; Sung Im; Jieun Kim; Jae Lee

Earliest Priority Filing Date: 3/14/2002 4/2/01 5/7

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please do a search on claims 1-16.

Chemical compound I

Chemical Compound 109 - Claim 7

Chemical compound 200 - Claim 13

Chemical compound 301 - Claim 15

Thanks

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>EJ</u>	NA Sequence (#) _____	STN <u>\$185.80</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>✓ (1)</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>11-23-04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>5</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>60</u>	Other _____	Other (specify) _____

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FILE 'REGISTRY' ENTERED AT 13:49:47 ON 23 NOV 2004
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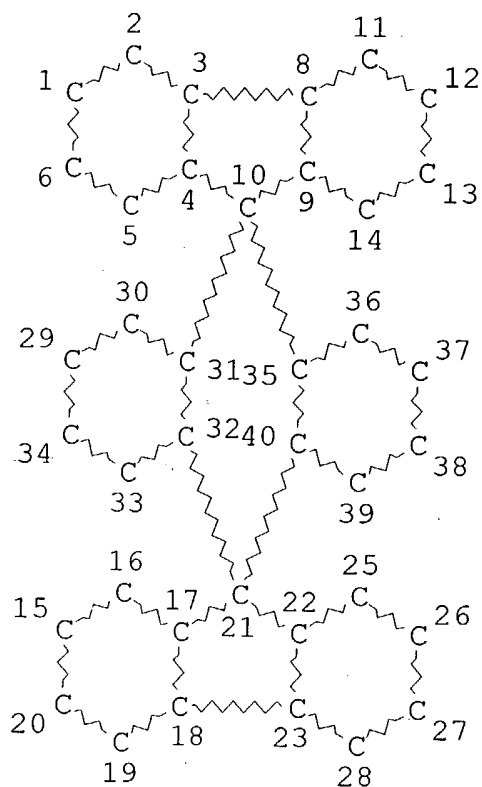
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L11 FILE 'CAOLD' ENTERED AT 13:48:33 ON 23 NOV 2004
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L12 FILE 'ZCAPLUS' ENTERED AT 13:49:23 ON 23 NOV 2004
4 S L10

FILE 'REGISTRY' ENTERED AT 13:49:47 ON 23 NOV 2004

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L8. STR



A 45

NODE ATTRIBUTES:

NSPEC IS RC AT 45
 CONNECT IS M1 RC AT 45
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 39

STEREO ATTRIBUTES: NONE

L10 104 SEA FILE=REGISTRY SSS FUL L8

100.0% PROCESSED 15865 ITERATIONS
 SEARCH TIME: 00.00.04

104 ANSWERS

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FILE 'ZCAPLUS' ENTERED AT 13:50:05 ON 23 NOV 2004

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L12 ANSWER 1 OF 4 ZCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2003:913158 ZCAPLUS
 DOCUMENT NUMBER: 139:388293
 TITLE: New organic compounds for electroluminescence
 and organic electroluminescent devices using the
 same
 INVENTOR(S): Kim, Ji-Eun; Son, Se-Hwan; Bae, Jae-Soon; Lee,
 Youn-Gu; Kim, Kong-Kyeum; Lee, Jae-Chol; Jang,
 Jun-Gi; Im, Sung-Gap
 PATENT ASSIGNEE(S): LG Chem, Ltd., S. Korea
 SOURCE: PCT Int. Appl., 145 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003095445	A1	20031120	WO 2003-KR899	20030506
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2003087522	A	20031114	KR 2003-10439	20030219
US 2004067387	A1	20040408	US 2003-431349	20030506
PRIORITY APPLN. INFO.:				200205
KR 2002-25084				A

07

KR 2003-10439

A

200302

19

OTHER SOURCE(S): MARPAT 139:388293

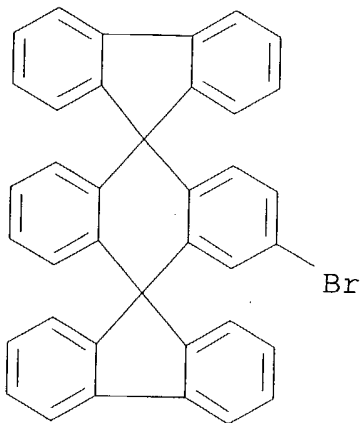
AB Disclosed is a novel group of compds. having a general structure of anthracene body substituted with at least one thiophenyl group, which can be further substituted with various substituent groups. These new compds. are generally compatible with org. electroluminescence. Also disclosed are org. electroluminescent devices and method of making the same. The org. electroluminescent devices include at least one of the compds. in various layers thereof. Org. electroluminescent devices employing the new compds. in their light-emitting layers show outstanding stability.

IT 474687-62-2P 474687-82-6P

(prepn. of new org. compds. for electroluminescence and org. electroluminescent devices)

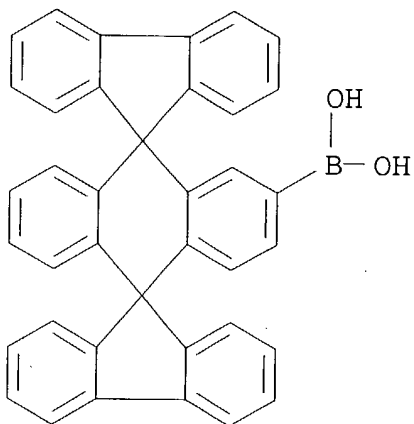
RN 474687-62-2 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene], 2'-bromo- (9CI) (CA INDEX NAME)



RN 474687-82-6 ZCAPLUS

CN Boronic acid, dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2'-yl- (9CI) (CA INDEX NAME)

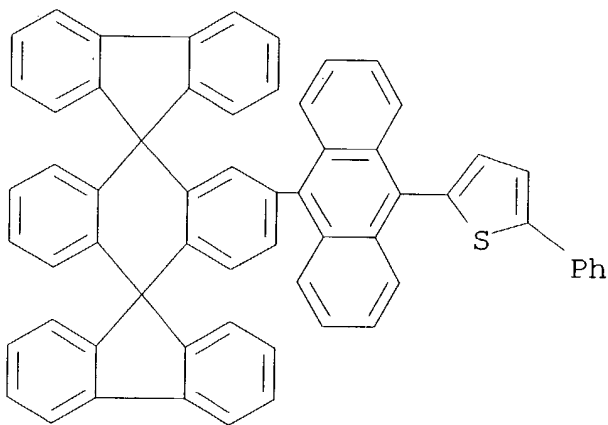


IT 474688-22-7P 624743-85-7P

(prepn. of new org. compds. for electroluminescence and org. electroluminescent devices)

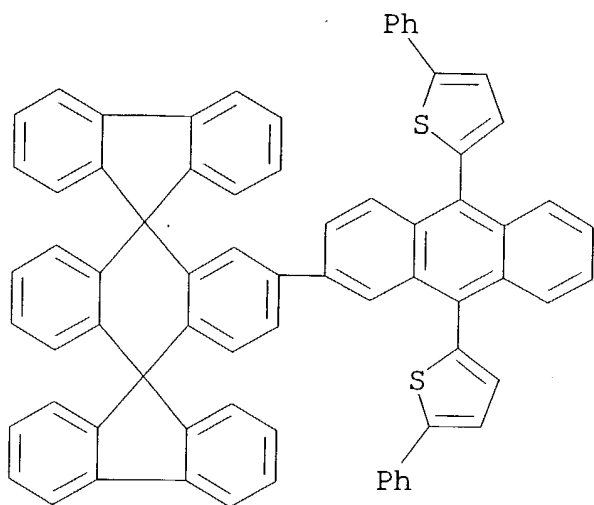
RN 474688-22-7 ZCAPLUS

CN Thiophene, 2-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)-5-phenyl- (9CI) (CA INDEX NAME)

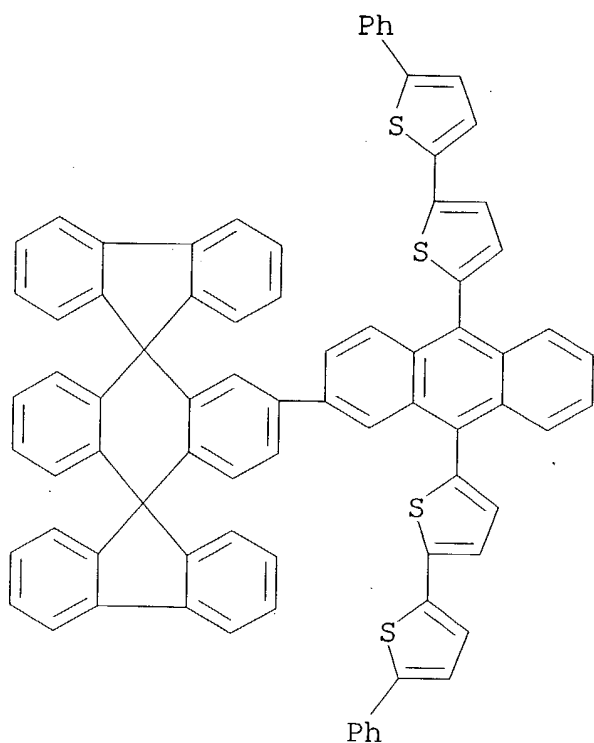


RN 624743-85-7 ZCAPLUS

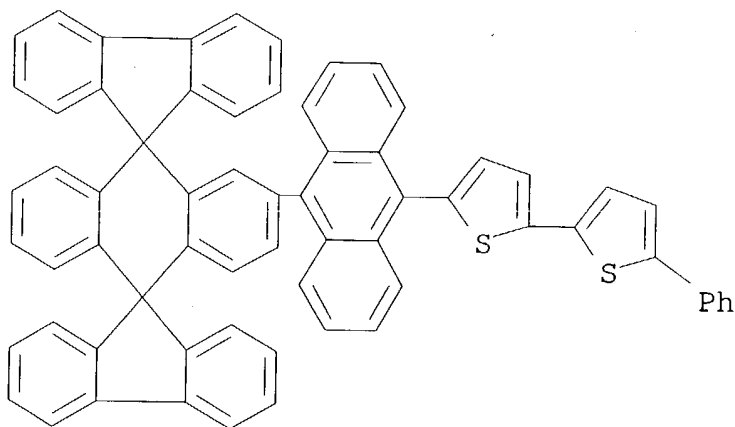
CN Thiophene, 2,2'-(2-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9,10-anthracenediyl)bis[5-phenyl- (9CI) (CA INDEX NAME)



IT 474688-16-9 474688-21-6
(prepn. of new org. compds. for electroluminescence and org.
electroluminescent devices)
RN 474688-16-9 ZCAPLUS
CN 2,2'-Bithiophene, 5,5''-(2-dispiro[9H-fluorene-9,9'(10'H)-anthracene-
10',9''-[9H]fluoren]-2'-yl-9,10-anthracenediyl)bis[5'-phenyl- (9CI)
(CA INDEX NAME)



RN 474688-21-6 ZCAPLUS
CN 2,2'-Bithiophene, 5-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2'-yl-9-anthracenyl)-5'-phenyl- (9CI) (CA INDEX NAME)



IT 474687-62-2P 474687-82-6P
(prepn. of new org. compds. for electroluminescence and org.

electroluminescent devices)
 IT 474688-22-7P 624743-85-7P
 (prepn. of new org. compds. for electroluminescence and org.
 electroluminescent devices)

IT 474688-16-9 474688-21-6
 (prepn. of new org. compds. for electroluminescence and org.
 electroluminescent devices)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

L12 ANSWER 2 OF 4 ZCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:571287 ZCAPLUS

DOCUMENT NUMBER: 139:108823

TITLE: New material for transporting electrons and
 organic electroluminescent display using the
 same

INVENTOR(S): Yoon, Seok-Hee; Bae, Jae-Soon; Lee, Youn-Gu; Im,
 Sung-Gap; Lee, Jae-Chol; Kim, Ji-Eun; Kim,
 Kong-Kyeom; Son, Se-Hwan; Han, Young-Kyu

PATENT ASSIGNEE(S): LG Chem, Ltd., S. Korea

SOURCE: PCT Int. Appl., 88 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003060956	A2	20030724	WO 2003-KR112	20030117
WO 2003060956	A3	20031113		
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CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,				
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC,				
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO,				
NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM,				
TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:				
GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,				
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,				
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,				
SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,				
SN, TD, TG				
KR 2003067773	A	20030819	KR 2002-3025	200201

US 2003165715 A1 20030904 US 2003-345310 18
200301
EP 1465874 A2 20041013 EP 2003-729561 16
200301
17
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,
SK

PRIORITY APPLN. INFO.: KR 2002-3025 A
200201
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WO 2003-KR112 W
200301
17

OTHER SOURCE(S): MARPAT 139:108823

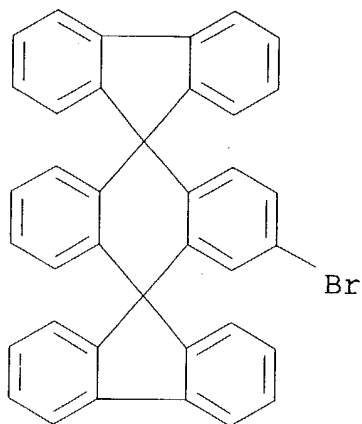
AB Novel materials for electron injection/transportation and emitting layers can greatly improve the stability of an org. electroluminescent display. Electroluminescent displays incorporating these materials produce blue light at low voltage levels. These novel org. materials include compds. in which 1-2 imidazole functional groups are introduced in the 2 or 2,6-site of 9,10 substituted anthracene. An org. electroluminescent display with an org. compd. layer of these materials has high efficiency, thermal stability, operationally stability and maintains driving voltage before and after operation.

IT 474687-62-2P 474687-82-6P 474687-99-5P
474688-06-7P 474688-07-8P

(prepn. of electron transporting material for org. electroluminescent display)

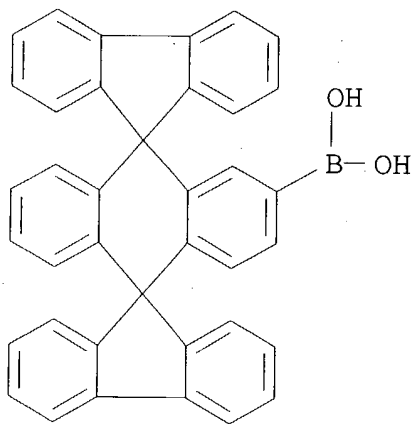
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CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9'']-[9H]fluorene],
2'-bromo- (9CI) (CA INDEX NAME)



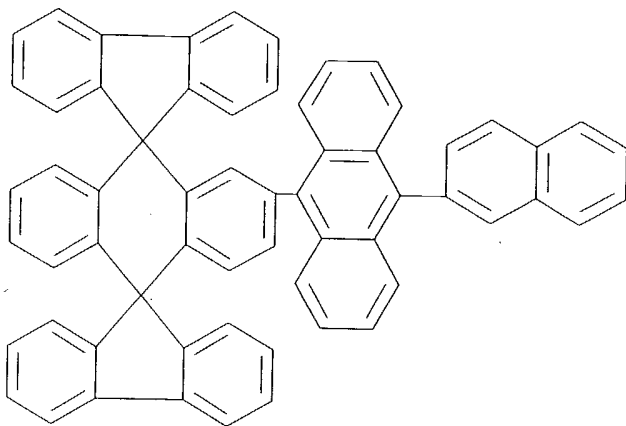
RN 474687-82-6 ZCAPLUS

CN Boronic acid, dispiro[9H-fluorene-9,9'-(10'H)-anthracene-10',9'']-
[9H]fluoren]-2'-yl- (9CI) (CA INDEX NAME)



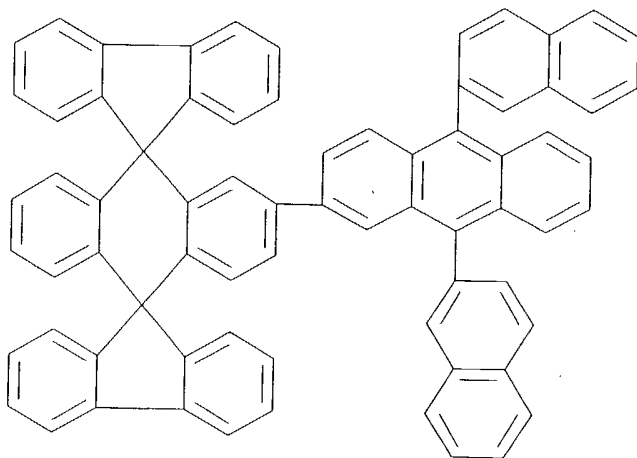
RN 474687-99-5 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'-(10'H)-anthracene-10',9'']-[9H]fluorene],
2'-[10-(2-naphthalenyl)-9-anthracenyl]- (9CI) (CA INDEX NAME)



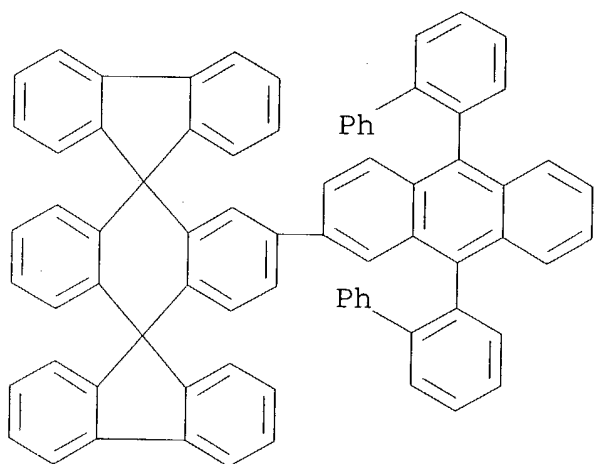
RN 474688-06-7 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(9,10-di-2-naphthalenyl-2-anthracenyl)- (9CI) (CA INDEX NAME)



RN 474688-07-8 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-[9,10-bis([1,1'-biphenyl]-2-yl)-2-anthracenyl]- (9CI) (CA INDEX
NAME)



IT 474687-62-2P 474687-82-6P 474687-99-5P

474688-06-7P 474688-07-8P

(prepn. of electron transporting material for org.
electroluminescent display)

L12 ANSWER 3 OF 4 ZCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:74514 ZCAPLUS

DOCUMENT NUMBER: 138:97990

TITLE: Bispirocyclic ring derivatives and organic
electroluminescent devices using them

INVENTOR(S): Li, Bin; Qiu, Yong; Wang, Fei

PATENT ASSIGNEE(S): Qinghua Univ., Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 77
pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese →

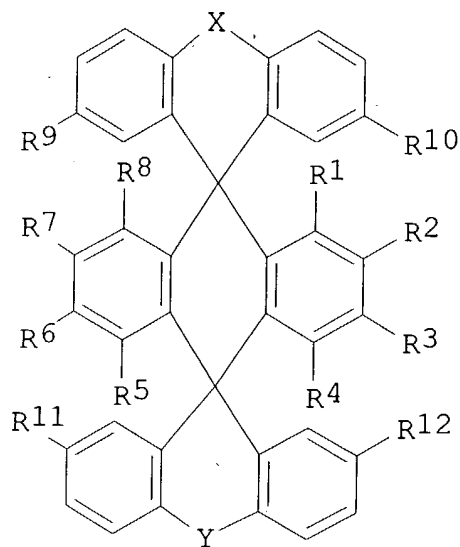
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
✓ CN 1338499	A	20020306	CN 2001-130676	200108 20
PRIORITY APPLN. INFO.: CN 2001-130676				200108 20

OTHER SOURCE(S): MARPAT 138:97990

GI



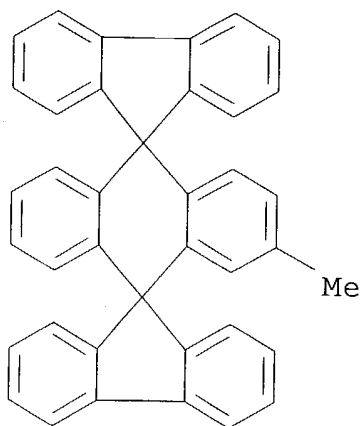
AB The invention relates to an org. electroluminescent device comprising a pair of electrodes sandwiching .gtoreq.1 layer(s) contg. .gtoreq.1 bispirocyclo ring derivs. I [R1-12 = H, or C1-24 or other atoms-contg. moiety; such as (iso)alkyl, OH, alkoxy, NO, CN, amino, S, halo, arom., (un)substituted heterocyclyl; X, Y = bond, O, S, NR, R-C-R (R = H or C1-24 or other atoms-contg. moiety)]. The Markush structures were claimed. The electroluminescent device was manufd. by vacuum vapor deposition of the synthetic electroluminescent material on In₂O₃-SnO₂ film (as anode)-deposited glass sheet and then vacuum vapor deposition of Mg/Ag (10:1) layer (as cathode) on.

IT 484687-26-5 484687-27-6 484687-28-7
 484687-29-8 484687-30-1 484687-31-2
 484687-32-3 484687-33-4 484687-34-5
 484687-35-6 484687-36-7

(novel bispirocyclo deriv. for org. electroluminescent devices)

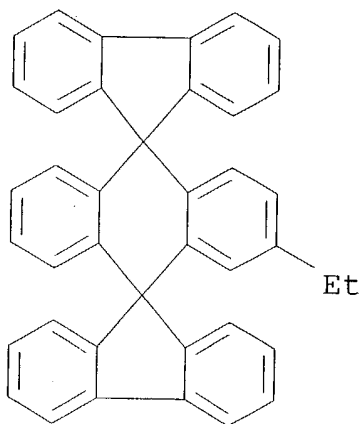
RN 484687-26-5 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'-(10'H)-anthracene-10',9'']-[9H]fluorene],
 2'-methyl- (9CI) (CA INDEX NAME)



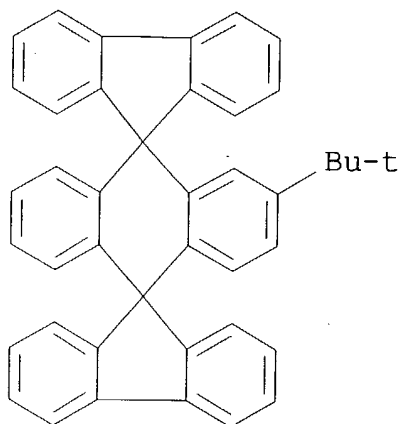
RN 484687-27-6 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-ethyl- (9CI) (CA INDEX NAME)



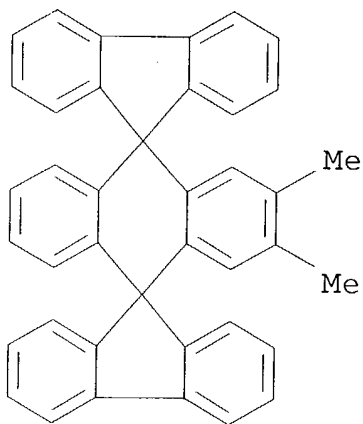
RN 484687-28-7 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



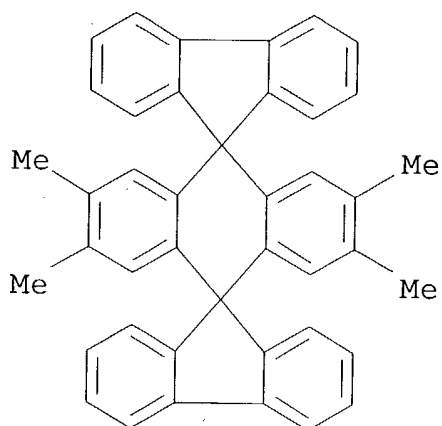
RN 484687-29-8 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',3'-dimethyl- (9CI) (CA INDEX NAME)

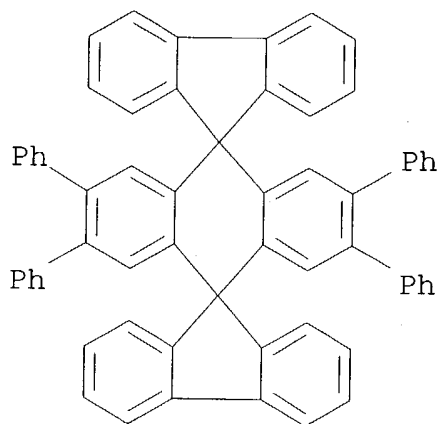


RN 484687-30-1 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',3',6',7'-tetramethyl- (9CI) (CA INDEX NAME)



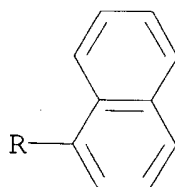
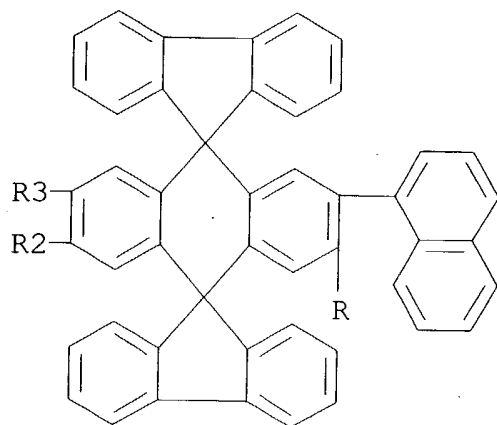
RN 484687-31-2 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',3',6',7'-tetraphenyl- (9CI) (CA INDEX NAME)

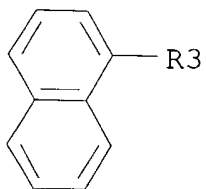
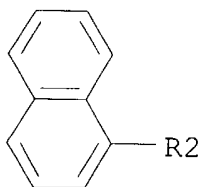
RN 484687-32-3 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',3',6',7'-tetra-1-naphthalenyl- (9CI) (CA INDEX NAME)

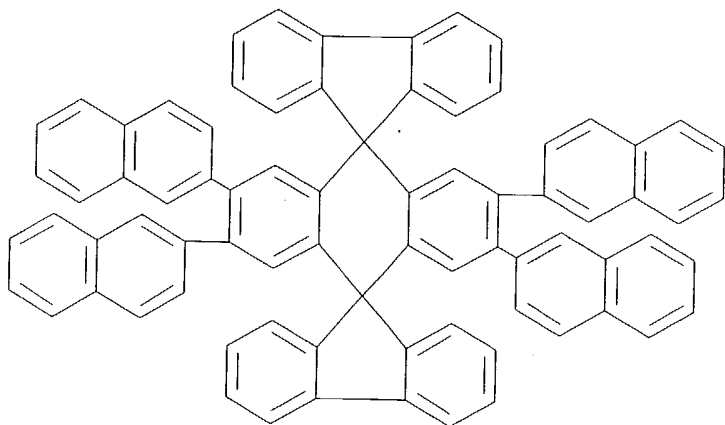
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PAGE 2-A



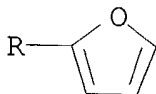
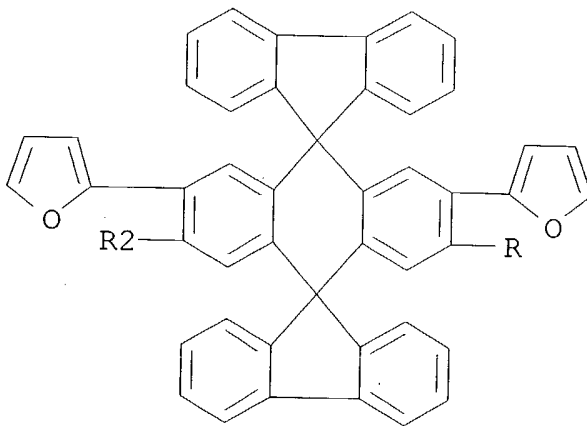
CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',3',6',7'-tetra-2-naphthalenyl- (9CI) (CA INDEX NAME)



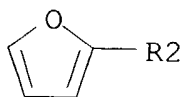
RN 484687-34-5 ZCAPLUS

CN Furan, 2,2',2'',2'''-dispiro[9H-fluorene-9,9'(10'H)-anthracene-
10',9''-[9H]fluorene]-2',3',6',7'-tetrayltetrakis- (9CI) (CA INDEX
NAME)

PAGE 1-A

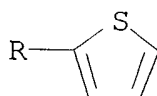
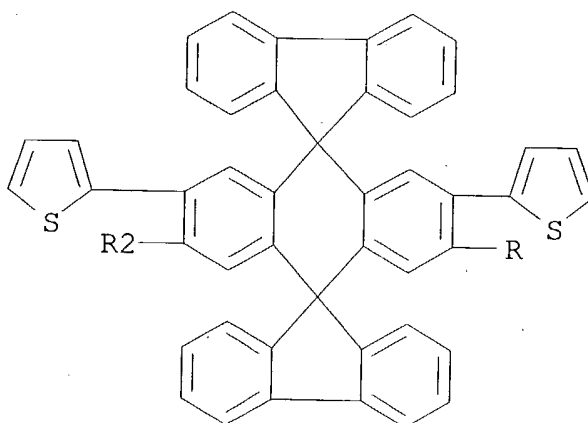


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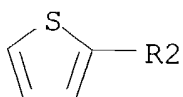


RN 484687-35-6 ZCAPLUS
 CN Thiophene, 2,2',2'',2'''-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9'''-[9H]fluorene]-2',3',6',7'-tetrayltetrakis- (9CI) (CA INDEX NAME)

PAGE 1-A

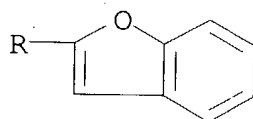
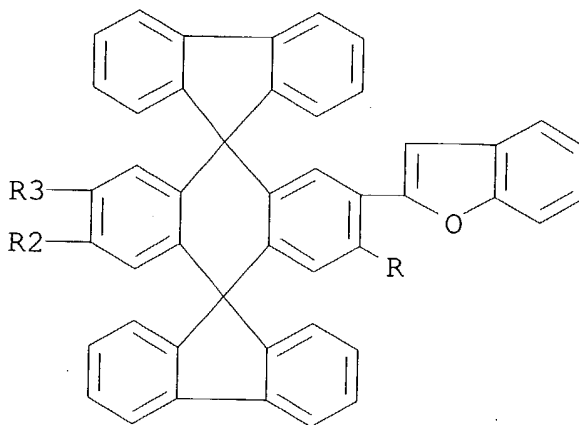


PAGE 2-A

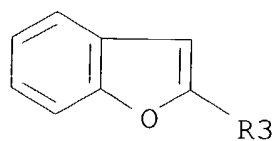
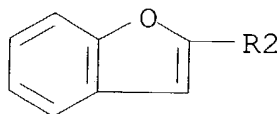


RN 484687-36-7 ZCAPLUS
 CN Benzofuran, 2,2',2'',2'''-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9'''-[9H]fluorene]-2',3',6',7'-tetrayltetrakis- (9CI) (CA INDEX NAME)

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IT 484687-26-5 484687-27-6 484687-28-7
484687-29-8 484687-30-1 484687-31-2
484687-32-3 484687-33-4 484687-34-5
484687-35-6 484687-36-7

(novel bispirocyclo deriv. for org. electroluminescent devices)

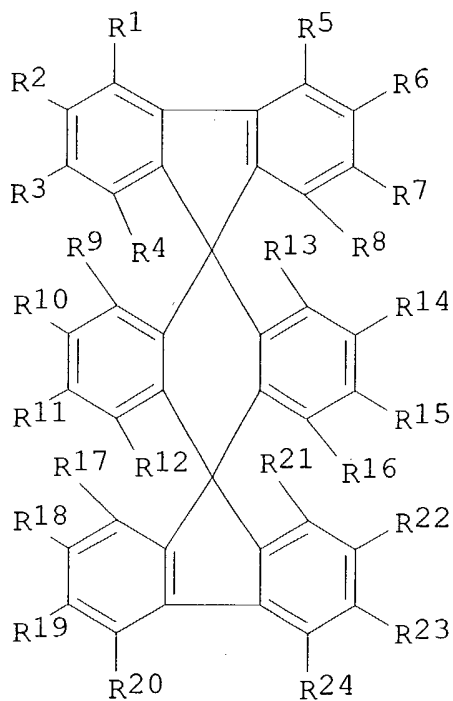
L12 ANSWER 4 OF 4 ZCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:849756 ZCAPLUS
 DOCUMENT NUMBER: 137:360139
 TITLE: Double-spiro organic compounds and
 electroluminescent devices
 INVENTOR(S): Kim, Kong-Kyeum; Son, Se-Hwan; Yoon, Seok-Hee;
 Bae, Jae-Soon; Lee, Youn-Gu; Im, Sung-Gap; Kim,
 Ji-Eun; Lee, Jae-Chol
 PATENT ASSIGNEE(S): LG Chem, Ltd., S. Korea
 SOURCE: PCT Int. Appl., 117 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
WO 2002088274	A1	20021107	WO 2002-KR458	200203 18
W: CN, JP RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
KR 2002083614	A	20021104	KR 2001-23038	200104 27
KR 2002083615	A	20021104	KR 2001-23039	200104 27
US 2004023060	A1	20040205	US 2002-99781	200203 14
EP 1294823	A1	20030326	EP 2002-705589	200203 18
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
JP 2004529937	T2	20040930	JP 2002-585559	200203 18
US 2004170863	A1	20040902	US 2003-718083	200311 19
PRIORITY APPLN. INFO.:			KR 2001-23038	A 200104 27

KR 2001-23039	A	200104 27
US 2002-99781	A3	200203 14
WO 2002-KR458	W	200203 18

OTHER SOURCE(S): MARPAT 137:360139
GI



I

AB Double-spiro org. compds. are claimed which are described by the general formula I (R1-24 = independently selected substituents not all of which are H). Light-emitting, hole-transporting, and electron-transporting materials comprising the compds. are also described. Electroluminescent materials comprising the compds, including deposited films, methods for depositing the materials, and

org. electroluminescent devices employing the materials, and method for fabricating the devices, are also described.

IT 474687-62-2D, derivs. 474687-68-8D, derivs.

474687-72-4 474687-74-6D, derivs.

474687-77-9D, derivs. 474687-79-1D, derivs.

474687-89-3 474687-90-6 474687-93-9

474687-95-1 474687-97-3 474688-01-2

474688-04-5 474688-09-0 474688-10-3

474688-11-4 474688-12-5 474688-13-6

474688-14-7 474688-15-8 474688-16-9

474688-17-0 474688-18-1 474688-19-2

474688-20-5 474688-21-6 474688-22-7

474688-23-8 474688-25-0 474688-26-1

474688-27-2 474688-28-3 474688-29-4

474688-30-7 474688-31-8 474688-32-9

474688-33-0 474688-34-1 474688-35-2

474688-36-3 474688-37-4 474688-38-5

474688-39-6 474688-40-9 474688-41-0

474688-42-1 474688-43-2 474688-44-3

474688-45-4 474688-46-5 474688-47-6

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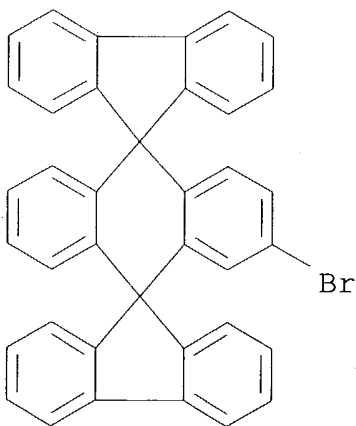
474688-65-8 474688-66-9 474688-67-0

474688-68-1 474688-69-2

(double-spiro org. compds. and electroluminescent devices using them)

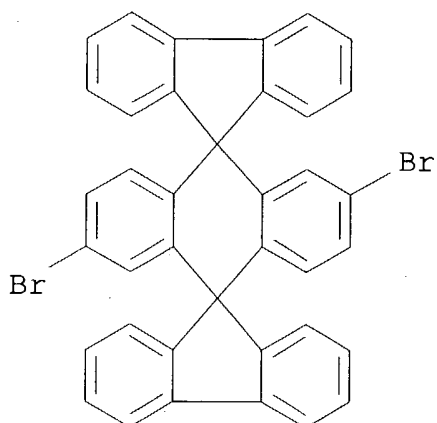
RN 474687-62-2 ZCAPLUS

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2'-bromo- (9CI) (CA INDEX NAME)



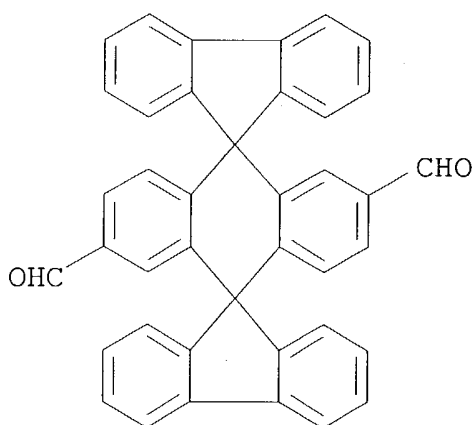
RN 474687-68-8 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',6'-dibromo- (9CI) (CA INDEX NAME)



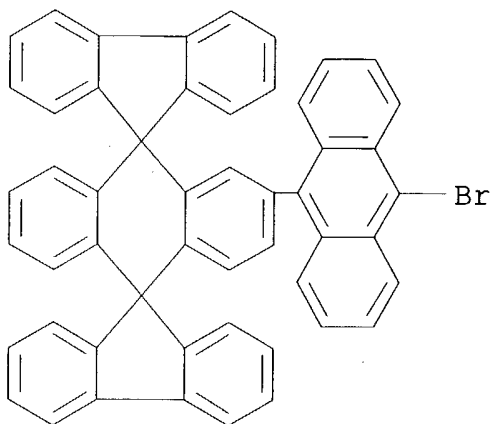
RN 474687-72-4 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-
2',6'-dicarboxaldehyde (9CI) (CA INDEX NAME)



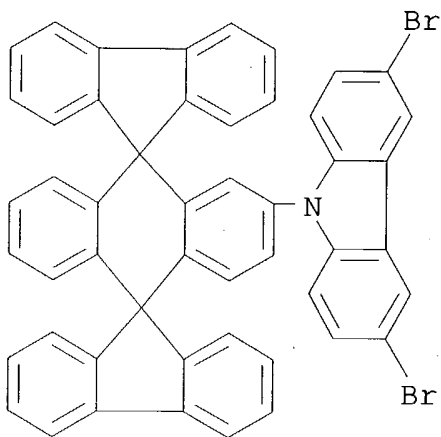
RN 474687-74-6 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(10-bromo-9-anthracenyl)- (9CI) (CA INDEX NAME)



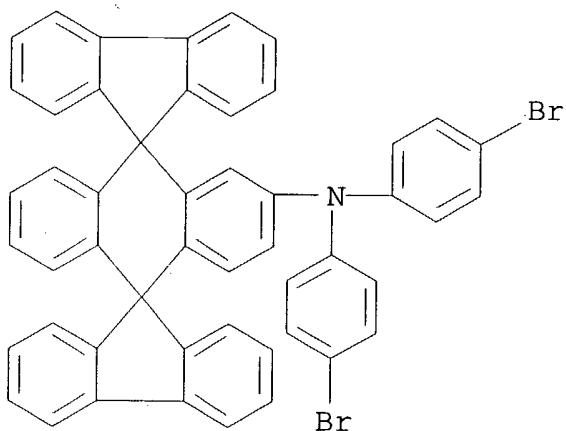
RN 474687-77-9 ZCAPLUS

CN 9H-Carbazole, 3,6-dibromo-9-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl- (9CI) (CA INDEX NAME)



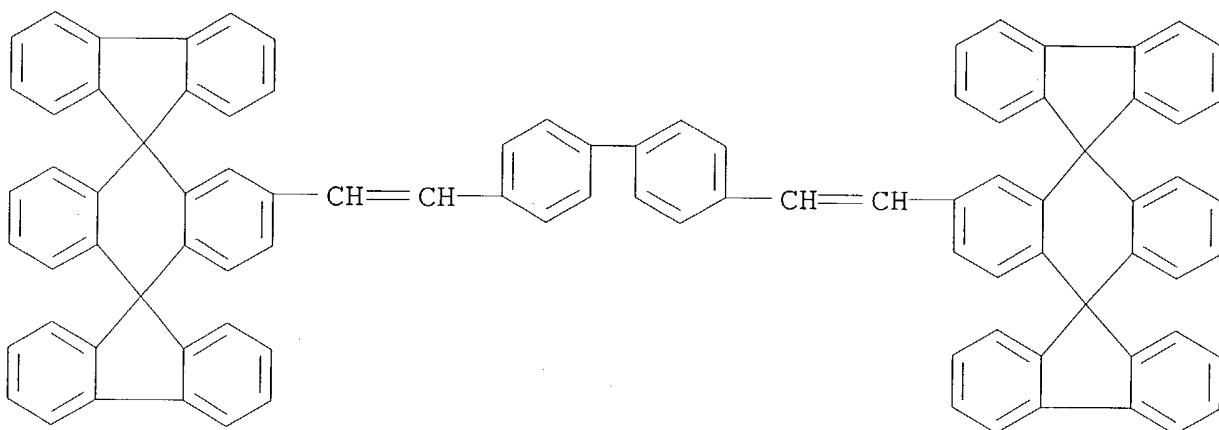
RN 474687-79-1 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-amine, N,N-bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



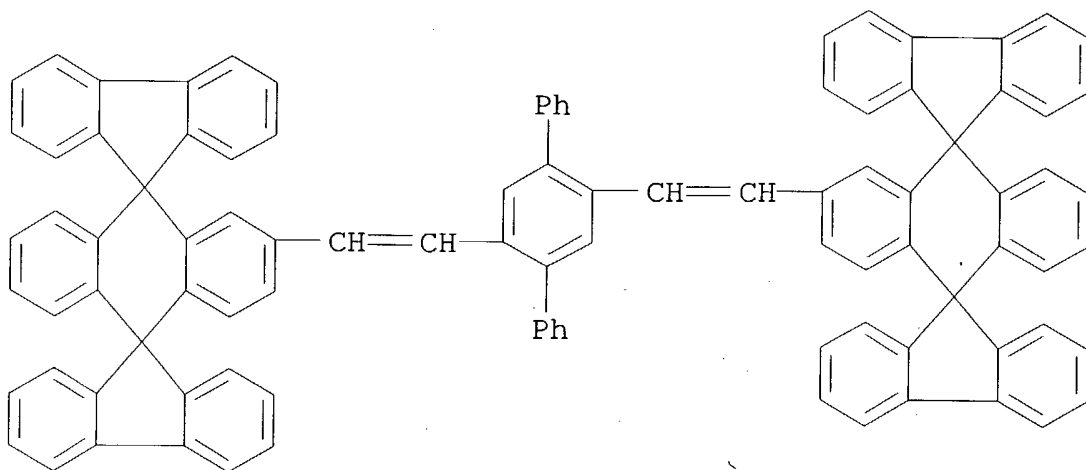
RN 474687-89-3 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
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INDEX NAME)



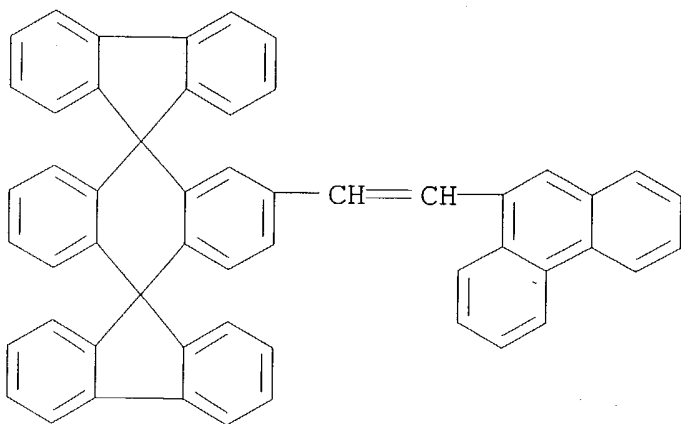
RN 474687-90-6 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
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(9CI) (CA INDEX NAME)



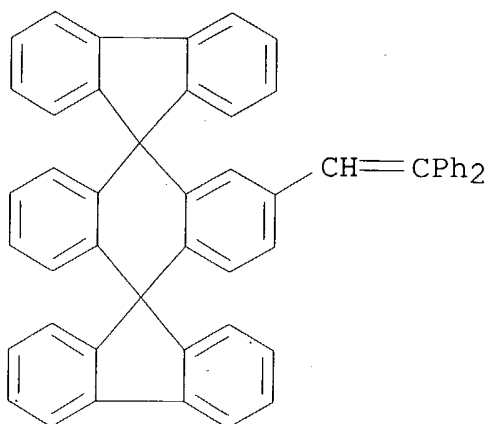
RN 474687-93-9 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'-(10'H)-anthracene-10',9''-[9H]fluorene],
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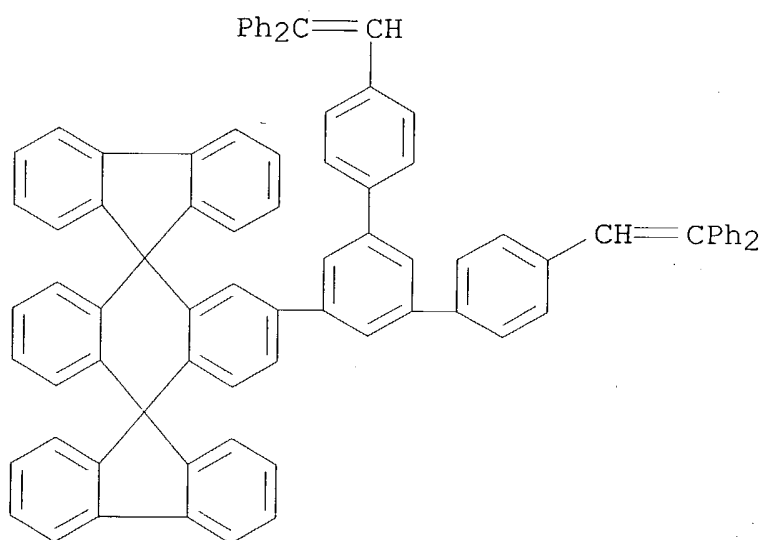
RN 474687-95-1 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'-(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(2,2-diphenylethenyl)- (9CI) (CA INDEX NAME)



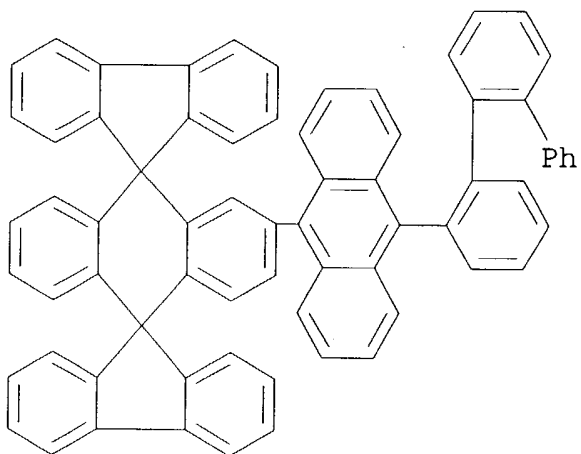
RN 474687-97-3 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-[4,4''-bis(2,2-diphenylethenyl)[1,1':3',1''-terphenyl]-5'-yl]-
(9CI) (CA INDEX NAME)



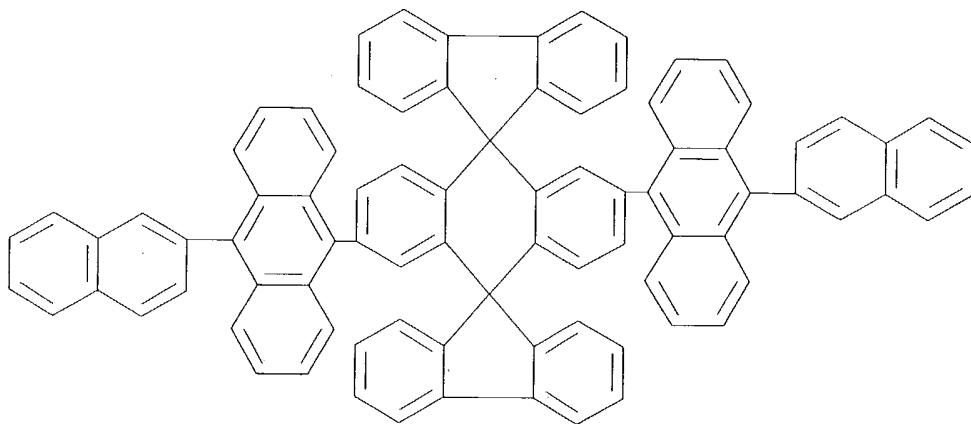
RN 474688-01-2 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(10-[1,1':2',1''-terphenyl]-2-yl-9-anthracenyl)- (9CI) (CA INDEX
NAME)



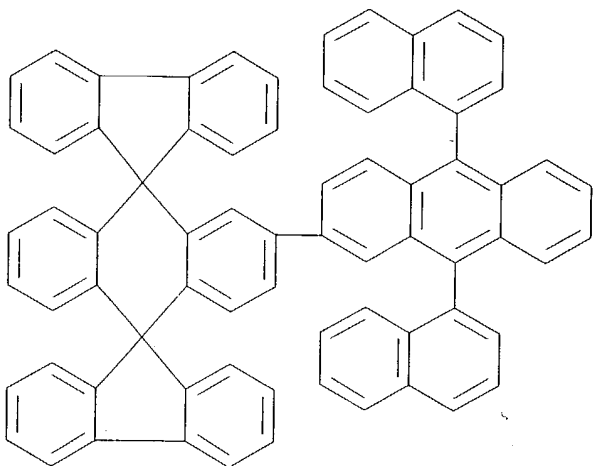
RN 474688-04-5 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',6'-bis[10-(2-naphthalenyl)-9-anthracenyl]-(9CI) (CA INDEX NAME)



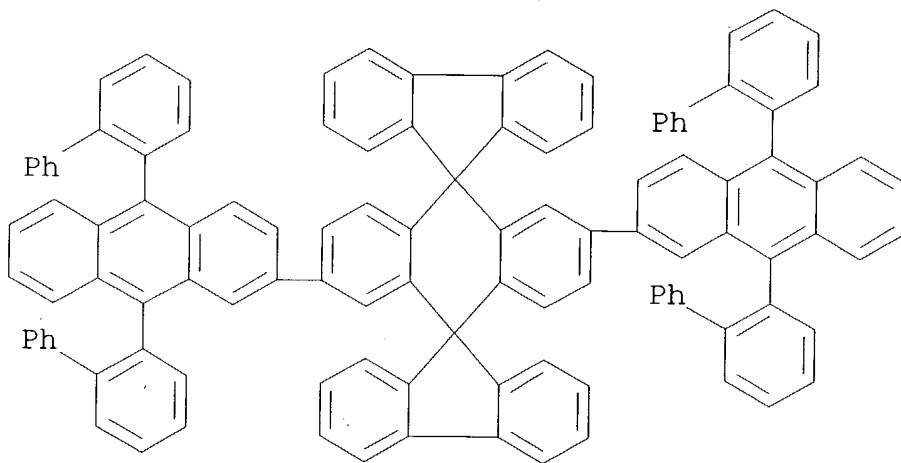
RN 474688-09-0 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(9,10-di-1-naphthalenyl-2-anthracenyl)-(9CI) (CA INDEX NAME)



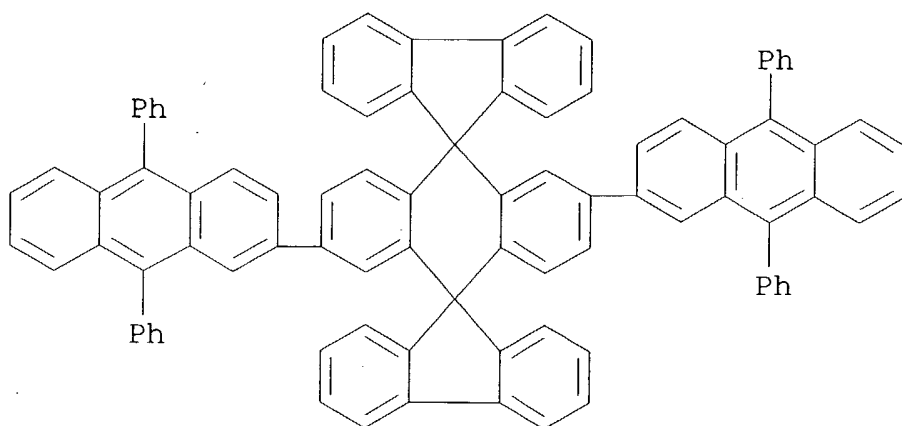
RN 474688-10-3 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',6'-bis[9,10-bis([1,1'-biphenyl]-2-yl)-2-anthracenyl]- (9CI) (CA
INDEX NAME)



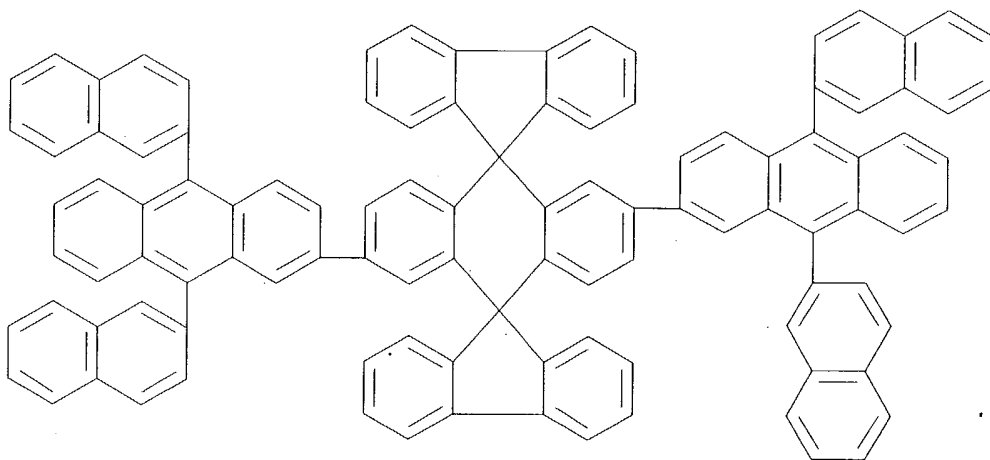
RN 474688-11-4 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',6'-bis(9,10-diphenyl-2-anthracenyl)- (9CI) (CA INDEX NAME)



RN 474688-12-5 ZCAPLUS

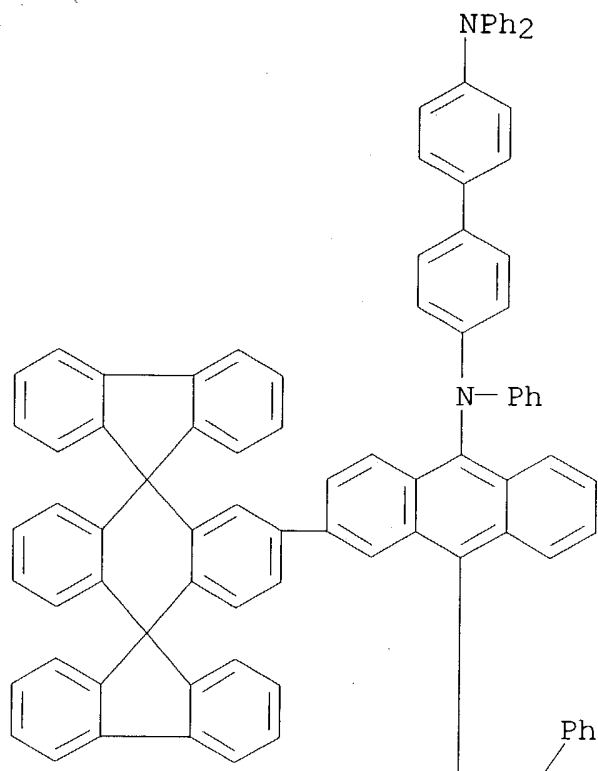
CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',6'-bis[9,10-bis(2-naphthalenyl)-2-anthracenyl]-(9CI) (CA INDEX
NAME)



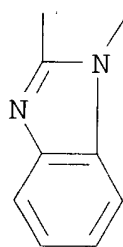
RN 474688-13-6 ZCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N-[3-dispiro[9H-fluorene-9,9'(10'H)-
anthracene-10',9''-[9H]fluorene]-2'-yl-10-(1-phenyl-1H-benzimidazol-2-
yl)-9-anthracenyl]-N,N',N'-triphenyl- (9CI) (CA INDEX NAME)

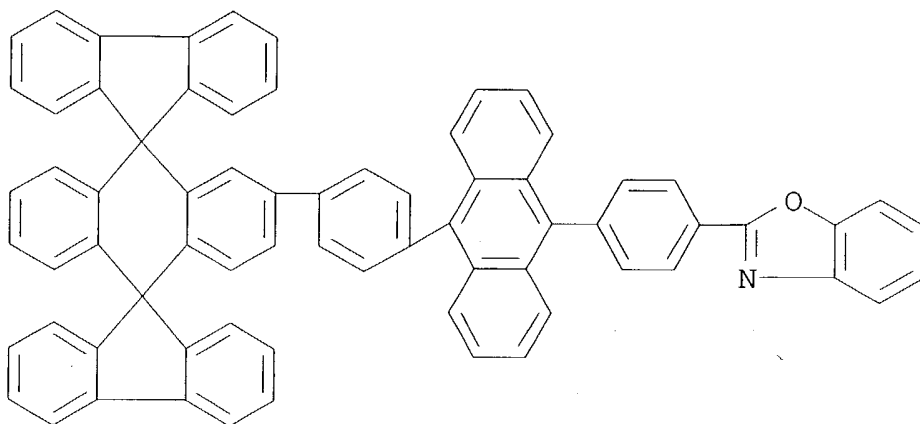
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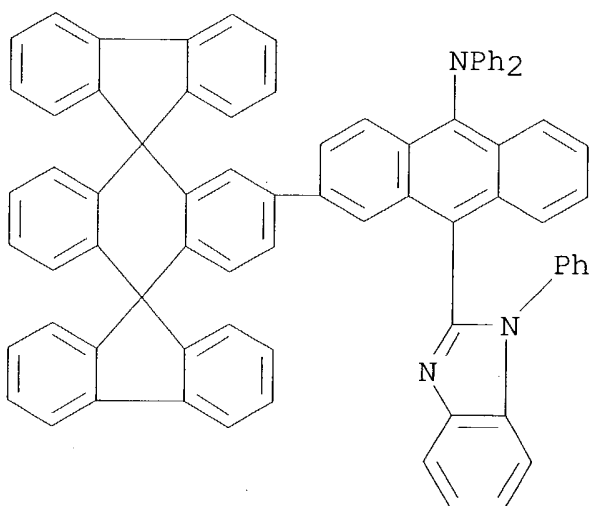


RN 474688-14-7 ZCAPLUS
CN Benzoxazole, 2-[4-[10-(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylphenyl)-9-anthracenyl]phenyl]- (9CI) (CA INDEX NAME)



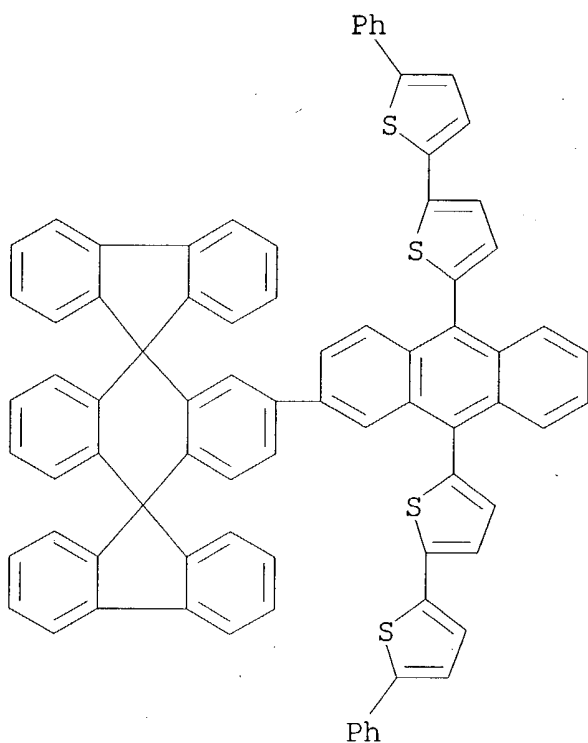
RN 474688-15-8 ZCAPLUS

CN 9-Anthracenamine, 3-dispiro[9H-fluorene-9,9'-(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-N,N-diphenyl-10-(1-phenyl-1H-benzimidazol-2-yl)-(9CI) (CA INDEX NAME)



RN 474688-16-9 ZCAPLUS

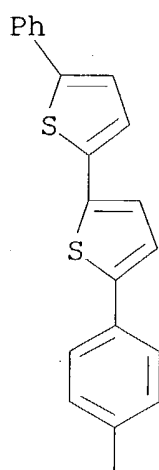
CN 2,2'-Bithiophene, 5,5''-(2-dispiro[9H-fluorene-9,9'-(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9,10-anthracenediyl)bis[5'-phenyl-(9CI) (CA INDEX NAME)



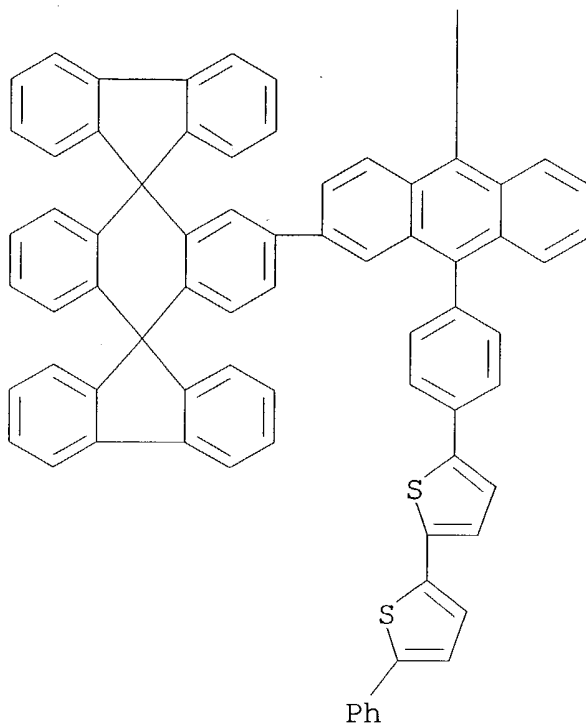
RN 474688-17-0 ZCAPLUS

CN 2,2'-Bithiophene, 5,5''-[(2-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9,10-anthracenediyl)di-4,1-phenylene]bis[5'-phenyl- (9CI) (CA INDEX NAME)

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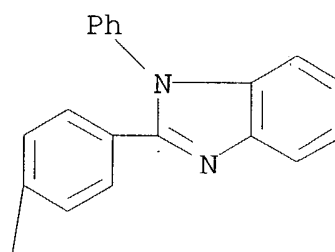
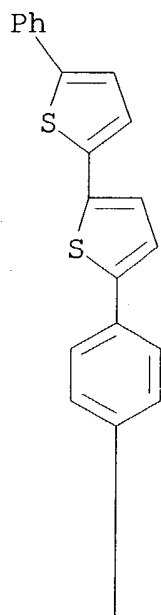
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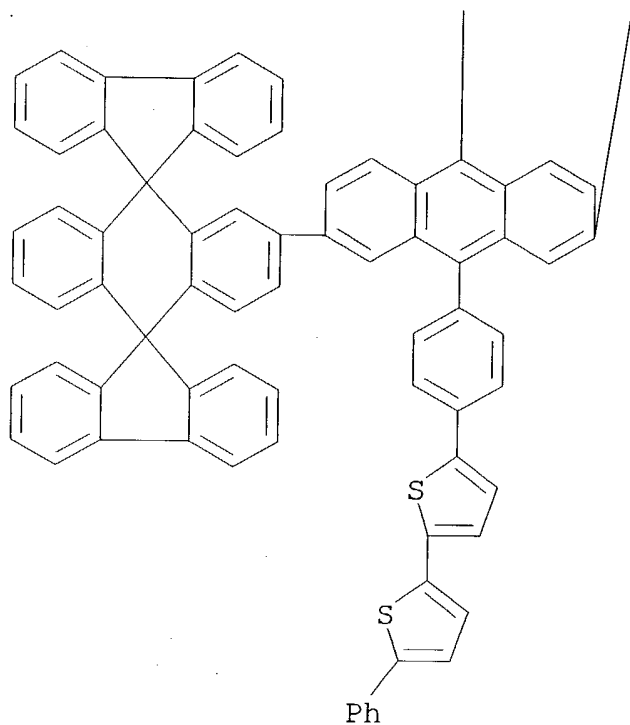
RN 474688-18-1 ZCAPLUS

CN 1H-Benzimidazole, 2-[4-[7-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9,10-bis[4-(5'-phenyl[2,2'-bithiophen]-5-yl)phenyl]-2-anthracenyl]phenyl]-1-phenyl- (9CI) (CA INDEX NAME)

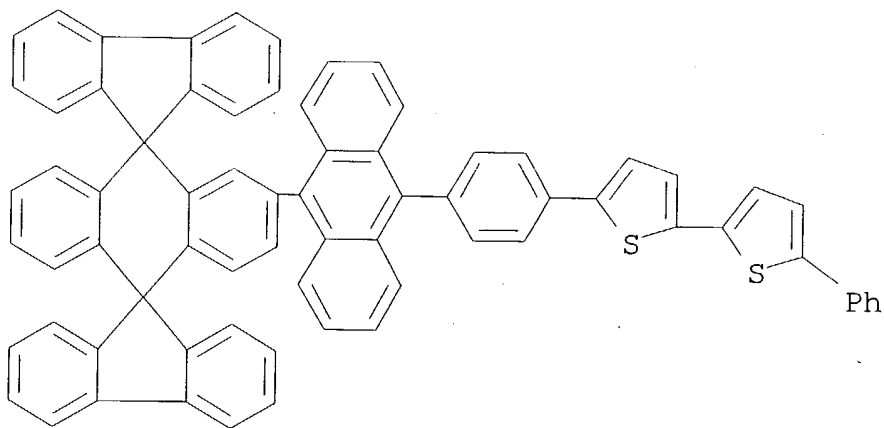
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PAGE 2-A

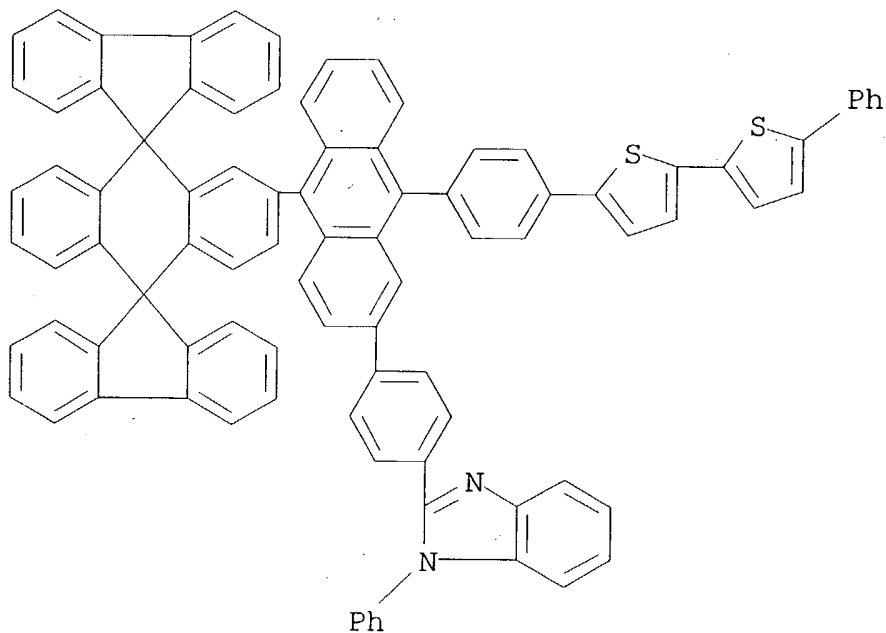


RN 474688-19-2 ZCAPLUS
CN 2,2'-Bithiophene, 5-[4-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)phenyl]-5'-phenyl- (9CI)
(CA INDEX NAME)



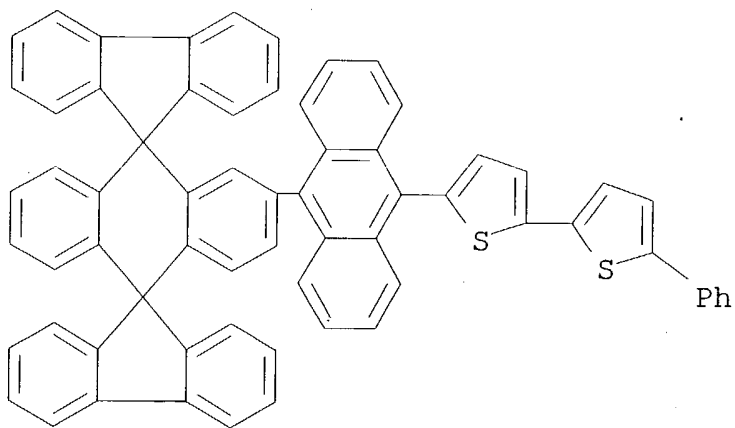
RN 474688-20-5 ZCAPLUS

CN 1H-Benzimidazole, 2-[4-[10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-[4-(5'-phenyl[2,2'-bithiophen]-5-yl)phenyl]-2-anthracenyl]phenyl]-1-phenyl- (9CI) (CA INDEX NAME)



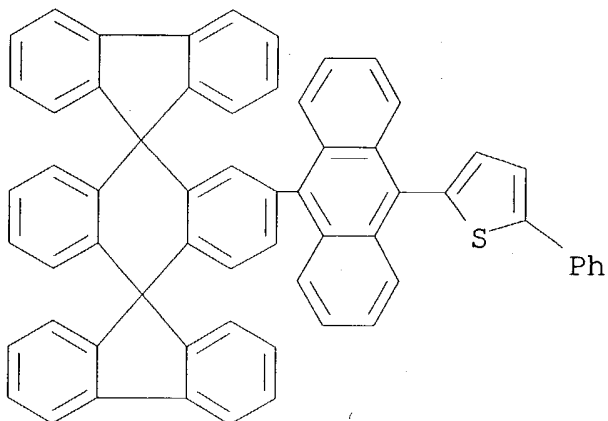
RN 474688-21-6 ZCAPLUS

CN 2,2'-Bithiophene, 5-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)-5'-phenyl- (9CI) (CA INDEX NAME)



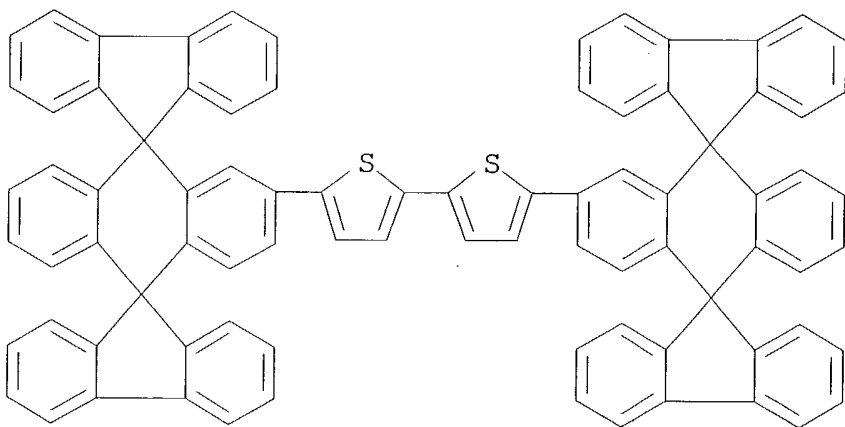
RN 474688-22-7 ZCAPLUS

CN Thiophene, 2-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)-5-phenyl- (9CI) (CA INDEX NAME)



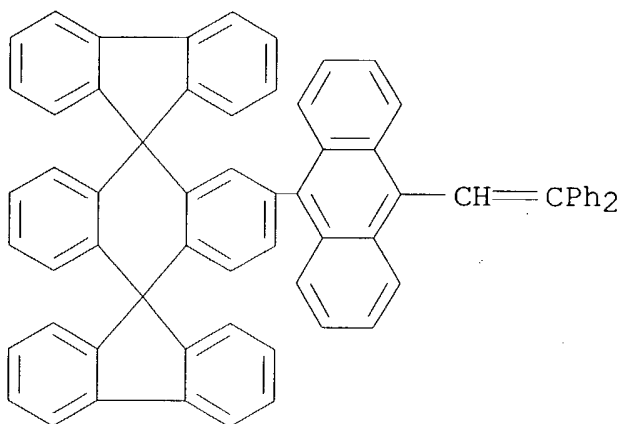
RN 474688-23-8 ZCAPLUS

CN 2,2'-Bithiophene, 5,5'-bis(dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl)- (9CI) (CA INDEX NAME)



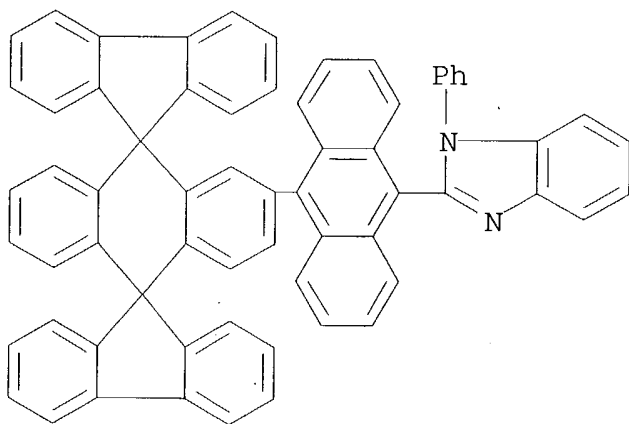
RN 474688-25-0 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene], 2'-[10-(2,2-diphenylethenyl)-9-anthracenyl]- (9CI) (CA INDEX NAME)



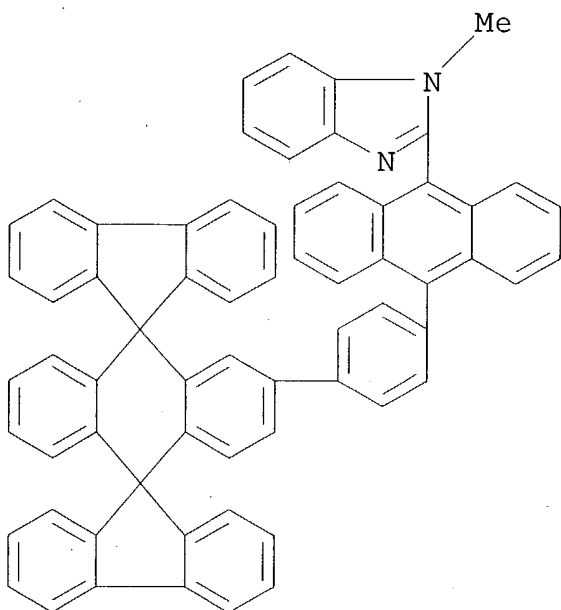
RN 474688-26-1 ZCAPLUS

CN 1H-Benzimidazole, 2-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)-1-phenyl- (9CI) (CA INDEX NAME)



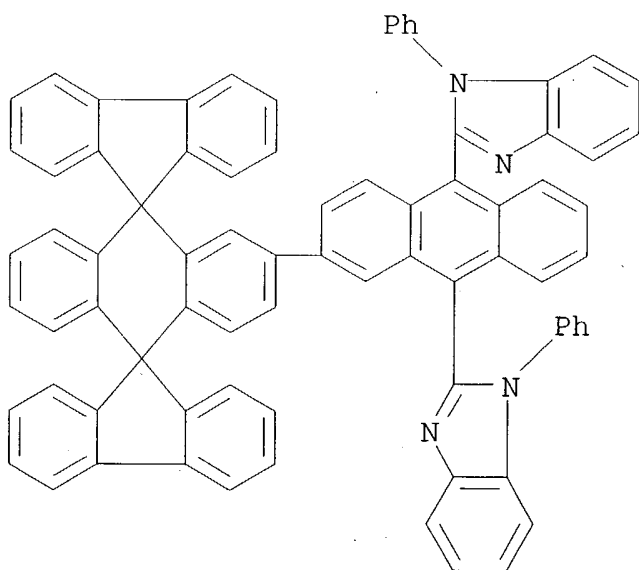
RN 474688-27-2 ZCAPLUS

CN 1H-Benzimidazole, 2-[10-(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylphenyl)-9-anthracenyl]-1-methyl- (9CI) (CA INDEX NAME)



RN 474688-28-3 ZCAPLUS

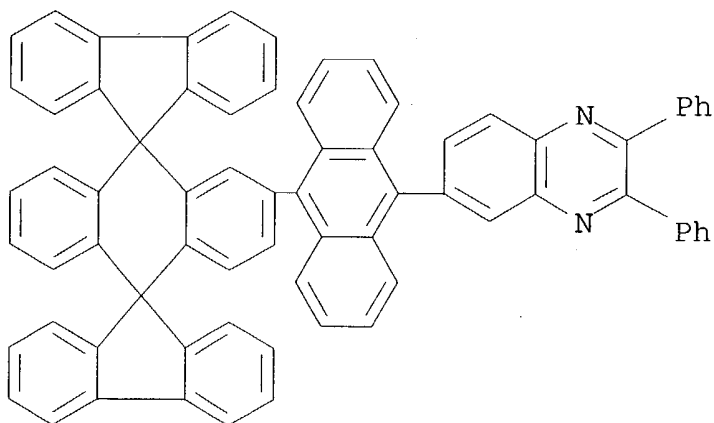
CN 1H-Benzimidazole, 2,2'-(2-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9,10-anthracenediyl)bis[1-phenyl- (9CI)
(CA INDEX NAME)



RN 474688-29-4 ZCAPLUS

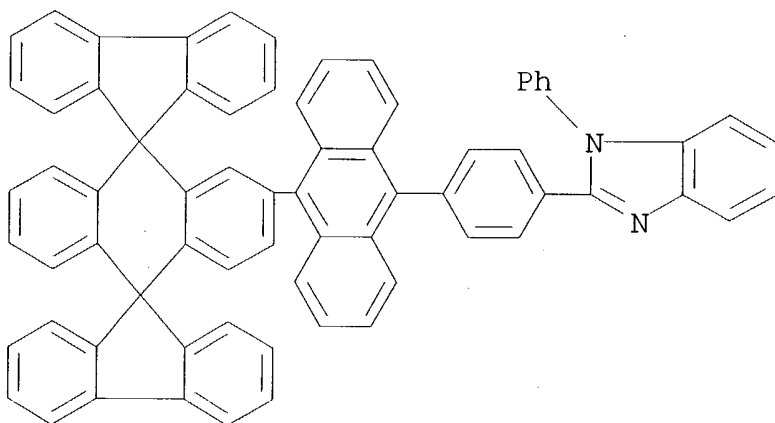
CN Quinoxaline, 6-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-

[9H]fluoren]-2'-yl-9-anthracenyl)-2,3-diphenyl- (9CI) (CA INDEX NAME)



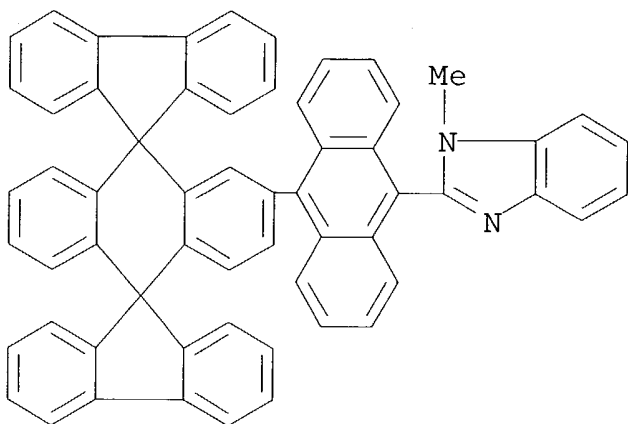
RN 474688-30-7 ZCAPLUS

CN 1H-Benzimidazole, 2-[4-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)phenyl]-1-phenyl- (9CI)
(CA INDEX NAME)



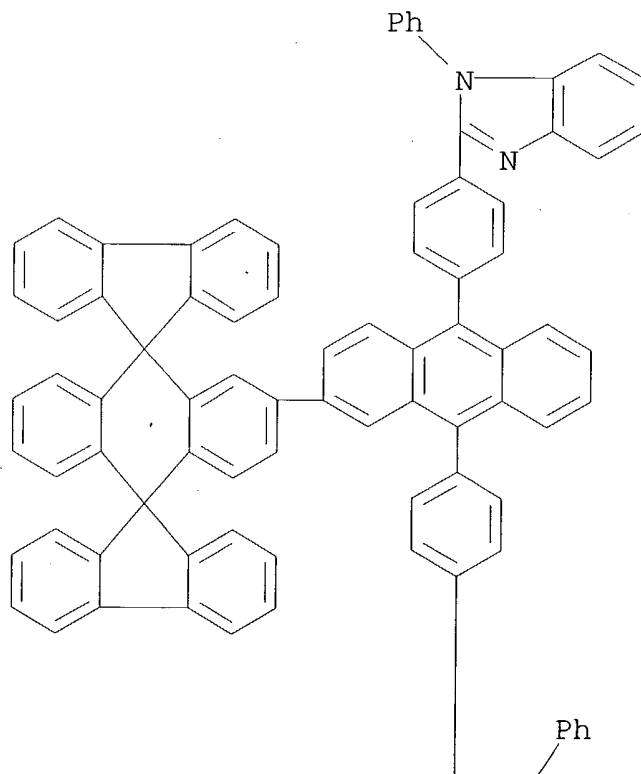
RN 474688-31-8 ZCAPLUS

CN 1H-Benzimidazole, 2-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)-1-methyl- (9CI) (CA INDEX NAME)

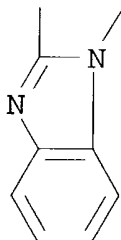


RN 474688-32-9 ZCAPLUS
CN 1H-Benzimidazole, 2,2'-[(2-dispiro[9H-fluorene-9,9' (10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9,10-anthracenediyl)di-4,1-phenylene]bis[1-phenyl- (9CI) (CA INDEX NAME)

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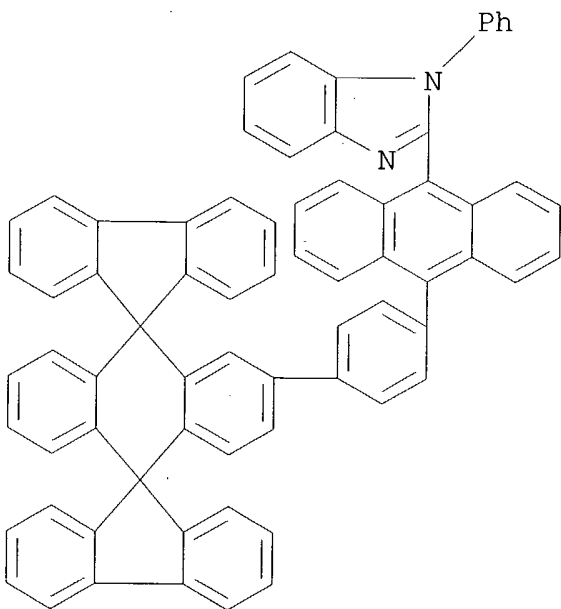


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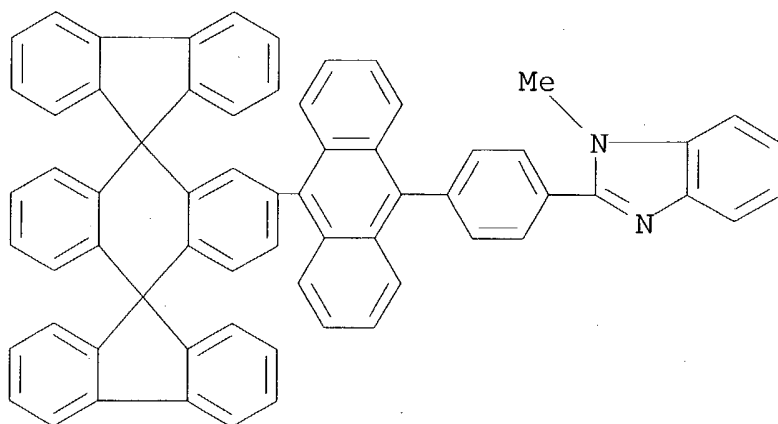
RN 474688-33-0 ZCAPLUS

CN 1H-Benzimidazole, 2-[10-(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylphenyl)-9-anthracenyl]-1-phenyl- (9CI)
(CA INDEX NAME)



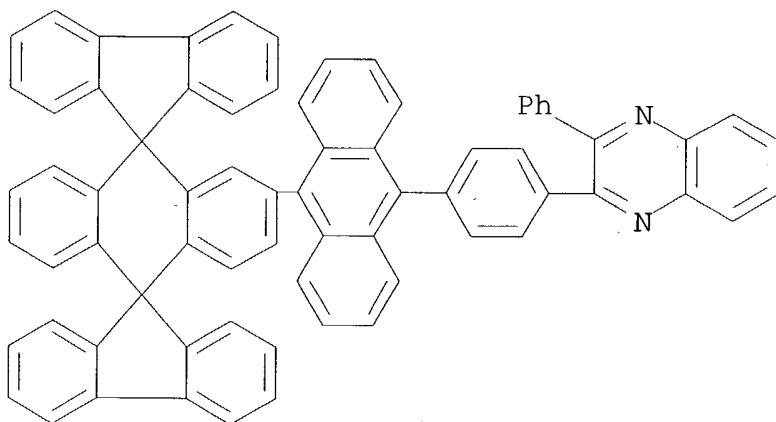
RN 474688-34-1 ZCAPLUS

CN 1H-Benzimidazole, 2-[4-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)phenyl]-1-methyl- (9CI)
(CA INDEX NAME)



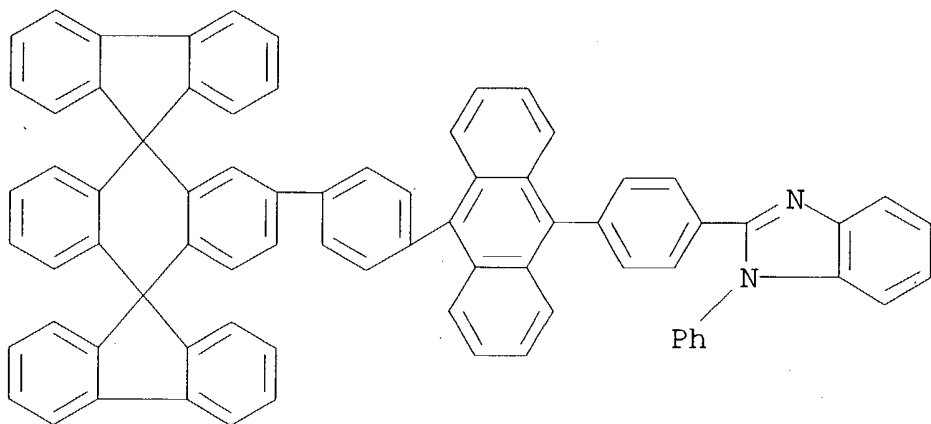
RN 474688-35-2 ZCAPLUS

CN Quinoxaline, 2-[4-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)phenyl]-3-phenyl- (9CI)
(CA INDEX NAME)



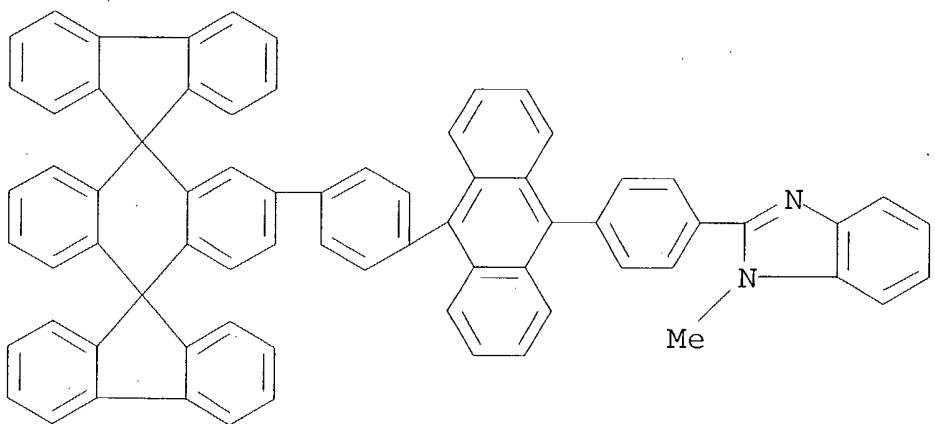
RN 474688-36-3 ZCAPLUS

CN 1H-Benzimidazole, 2-[4-[10-(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylphenyl)-9-anthracenyl]phenyl]-1-phenyl- (9CI) (CA INDEX NAME)



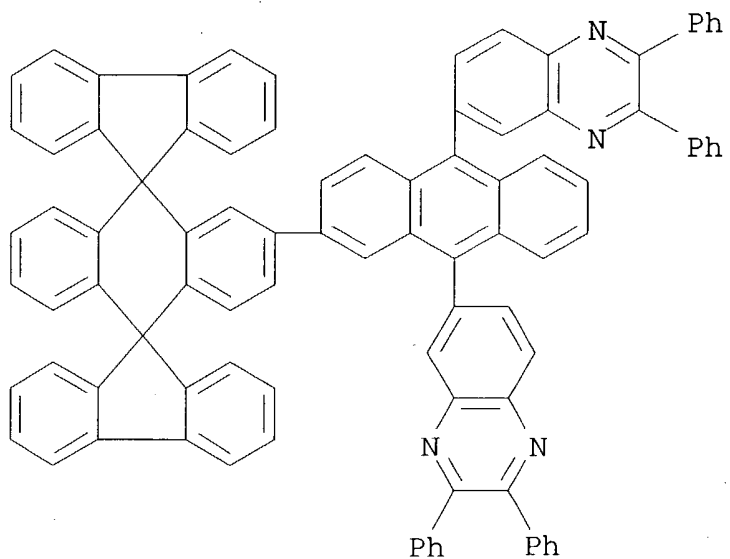
RN 474688-37-4 ZCAPLUS

CN 1H-Benzimidazole, 2-[4-[10-(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9'']-[9H]fluoren]-2'-ylphenyl)-9-anthracenyl]phenyl]-1-methyl- (9CI) (CA INDEX NAME)



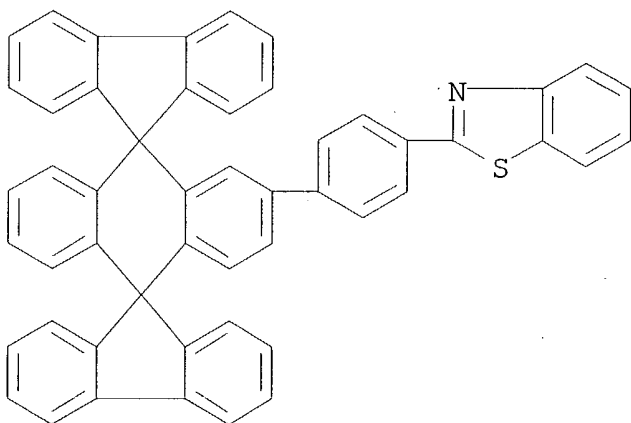
RN 474688-38-5 ZCAPLUS

CN Quinoxaline, 6,6'-(2-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9'']-[9H]fluoren)-2'-yl-9,10-anthracenediylbis[2,3-diphenyl]- (9CI) (CA INDEX NAME)



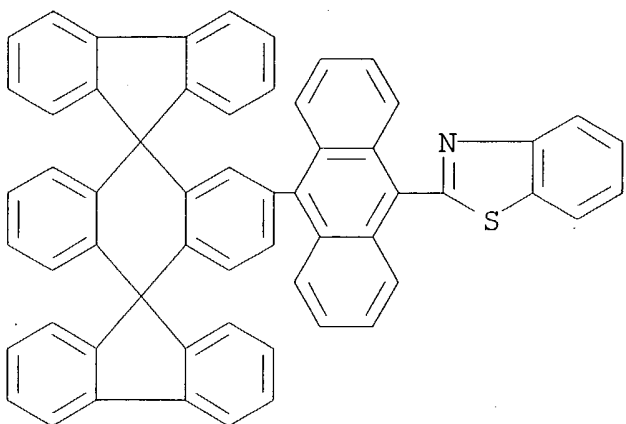
RN 474688-39-6 ZCAPLUS

CN Benzothiazole, 2-(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylphenyl)- (9CI) (CA INDEX NAME)



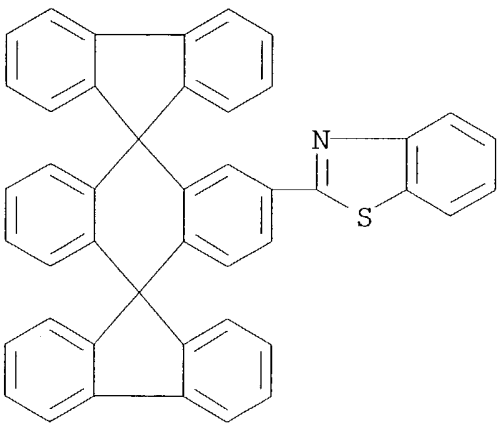
RN 474688-40-9 ZCAPLUS

CN Benzothiazole, 2-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)- (9CI) (CA INDEX NAME)



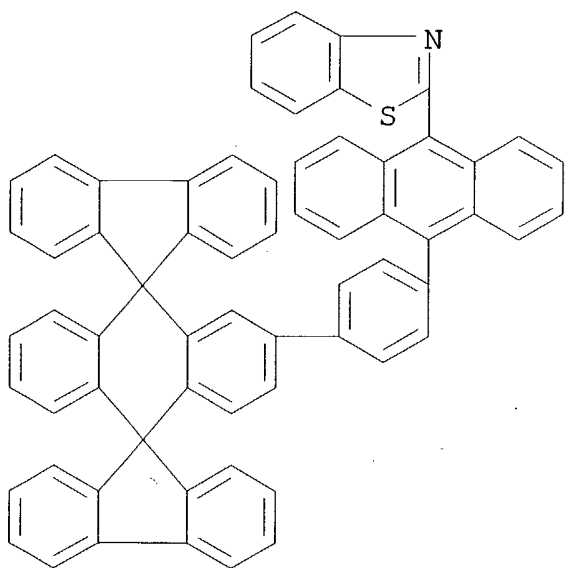
RN 474688-41-0 ZCAPLUS

CN Benzothiazole, 2-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl- (9CI) (CA INDEX NAME)



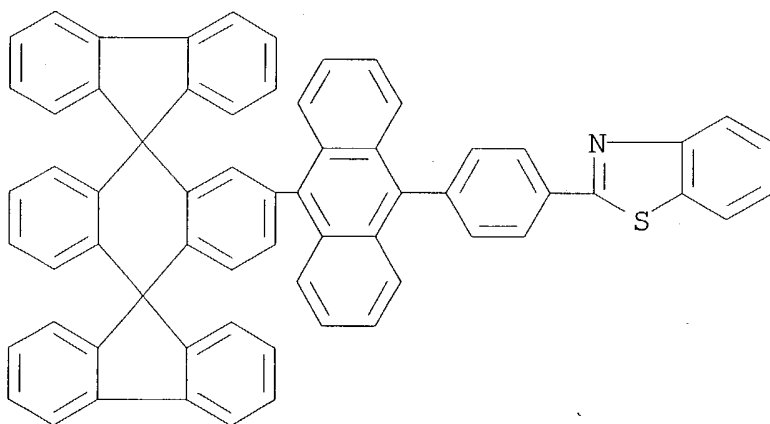
RN 474688-42-1 ZCAPLUS

CN Benzothiazole, 2-[10-(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylphenyl)-9-anthracenyl]- (9CI) (CA INDEX NAME)



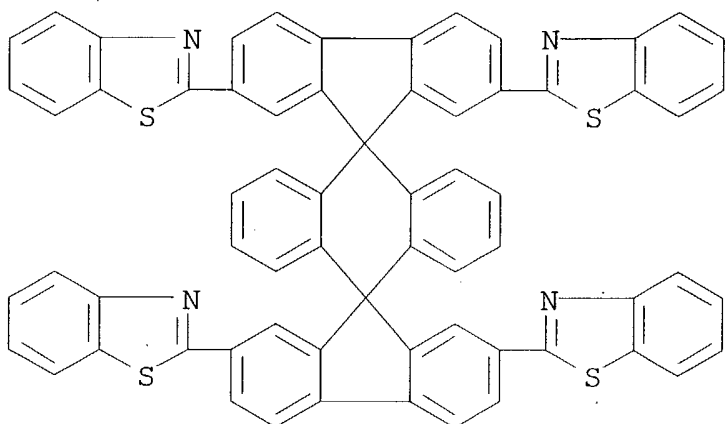
RN 474688-43-2 ZCAPLUS

CN Benzothiazole, 2-[4-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2'-yl-9-anthracenyl)phenyl]- (9CI) (CA INDEX NAME)



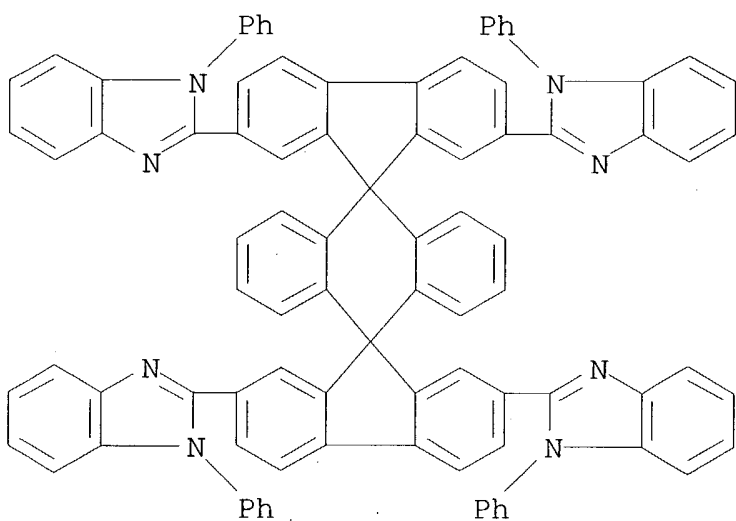
RN 474688-44-3 ZCAPLUS

CN Benzothiazole, 2,2',2'',2'''-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2,2'',7,7'''-tetrayltetrakis- (9CI) (CA INDEX NAME)



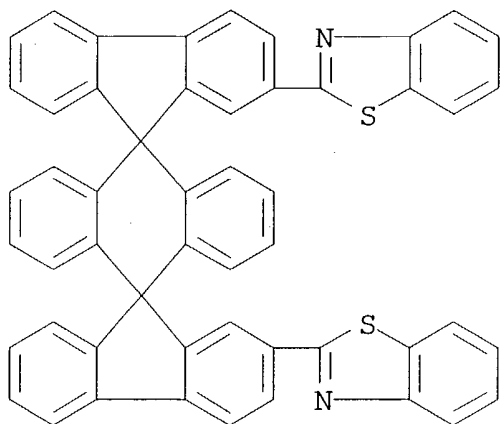
RN 474688-45-4 ZCAPLUS

CN 1H-Benzimidazole, 2,2',2'',2'''-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2,2'',7,7''-tetrayltetrakis[1-phenyl- (9CI) (CA INDEX NAME)



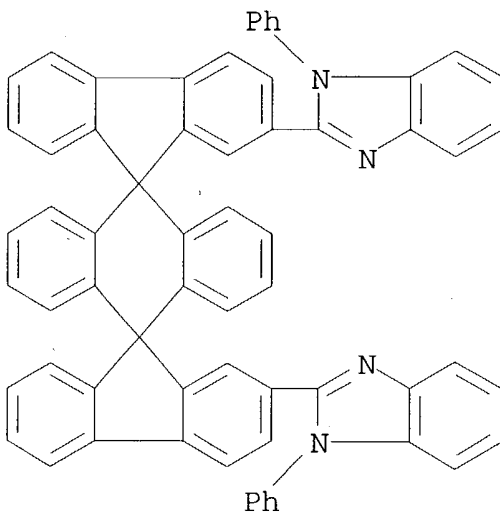
RN 474688-46-5 ZCAPLUS

CN Benzothiazole, 2,2'-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2,2''-diylbis- (9CI) (CA INDEX NAME)



RN 474688-47-6 ZCAPLUS

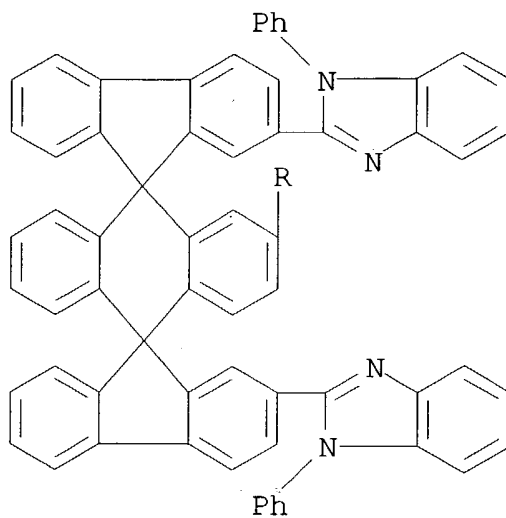
CN	1H-Benzimidazole, 2,2'-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2,2''-diylbis[1-phenyl-	(9CI)	(CA INDEX NAME)
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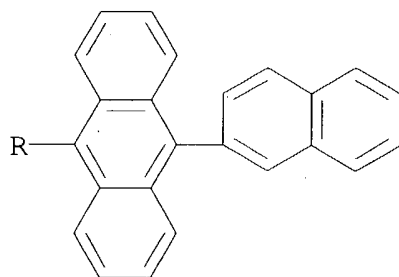
RN 474688-48-7 ZCAPLUS

CN 1H-Benzimidazole, 2,2'-[2'-[10-(2-naphthalenyl)-9-anthracenyl]dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2,2''-diyl]bis[1-phenyl- (9CI) (CA INDEX NAME)

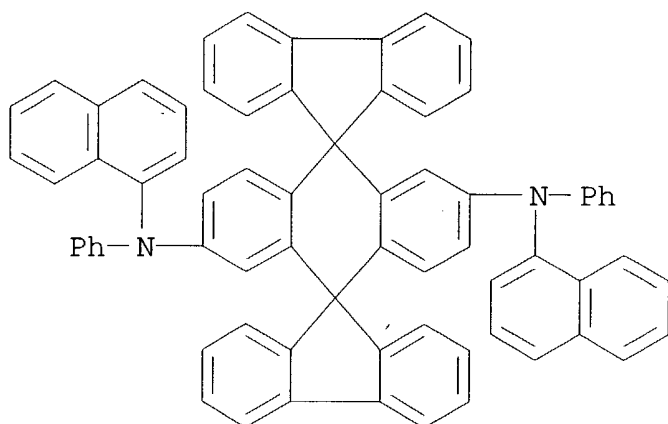
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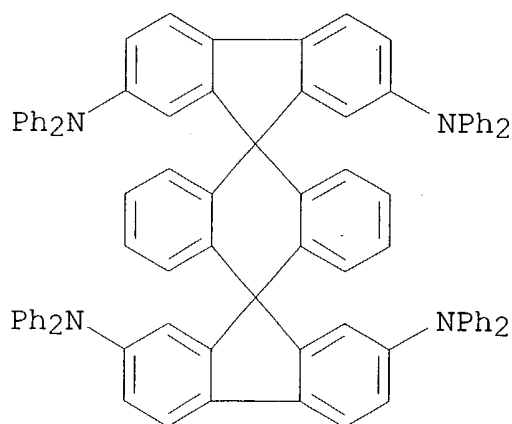


RN 474688-50-1 ZCAPLUS
CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-
2',6'-diamine, N,N'-di-1-naphthalenyl-N,N'-diphenyl- (9CI) (CA
INDEX NAME)



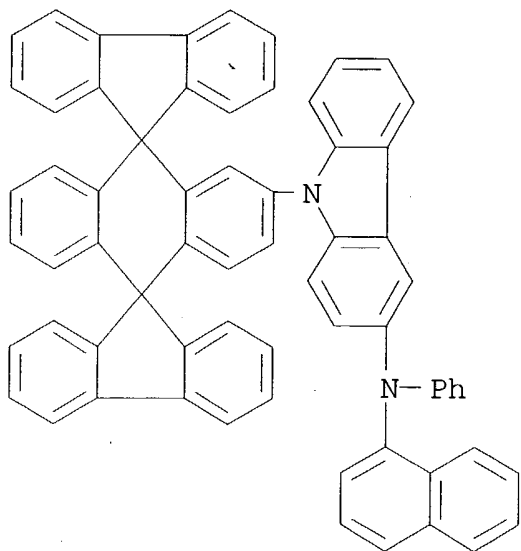
RN 474688-52-3 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-
2,2'',7',7''-tetramine, N,N,N',N',N'',N'',N''',N'''-octaphenyl-
(9CI) (CA INDEX NAME)



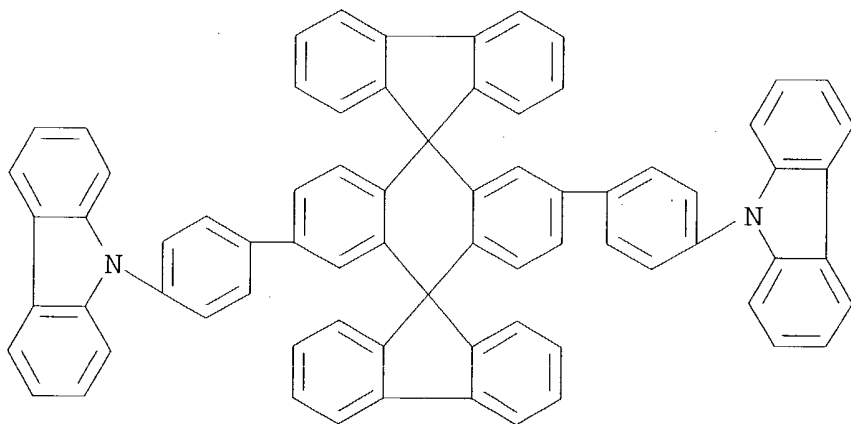
RN 474688-54-5 ZCAPLUS

CN 9H-Carbazol-3-amine, 9-dispiro[9H-fluorene-9,9'(10'H)-anthracene-
10',9''-[9H]fluorene]-2'-yl-N-1-naphthalenyl-N-phenyl- (9CI) (CA
INDEX NAME)



RN 474688-59-0 ZCAPLUS

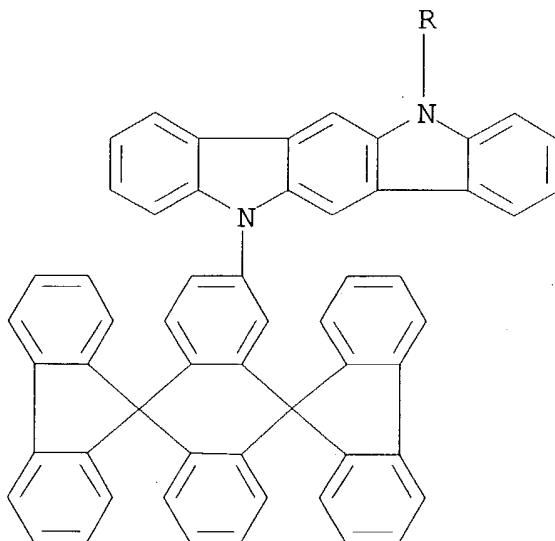
CN 9H-Carbazole, 9,9'-(dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9'']-[9H]fluorene)-2',6'-diyl-di-4,1-phenylenebis- (9CI) (CA INDEX NAME)



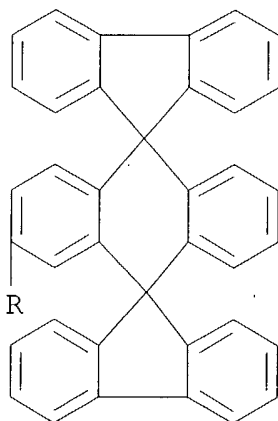
RN 474688-61-4 ZCAPLUS

CN Indolo[3,2-b]carbazole, 5,11-bis(dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9'']-[9H]fluorene)-2'-yl)-5,11-dihydro- (9CI) (CA INDEX NAME)

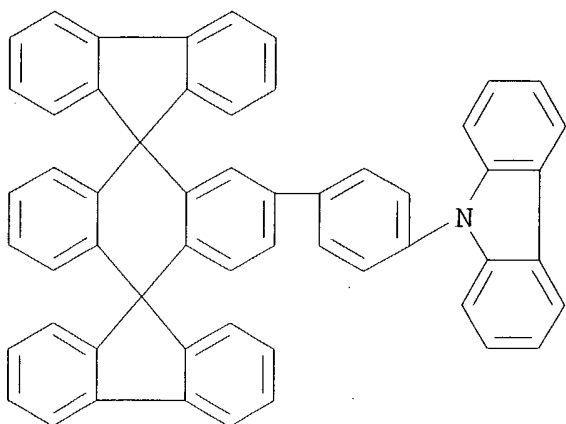
PAGE 1-A



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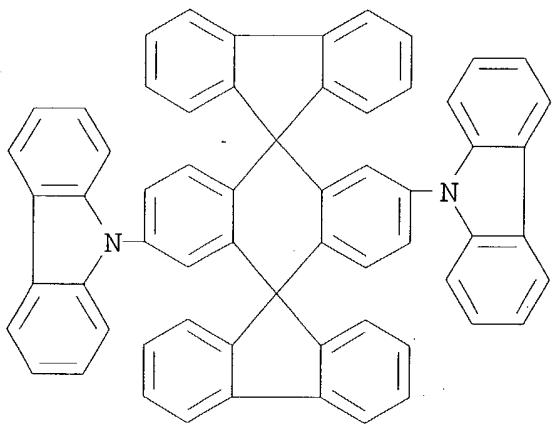


RN 474688-62-5 ZCAPLUS
CN 9H-Carbazole, 9-(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylphenyl)-(9CI) (CA INDEX NAME)



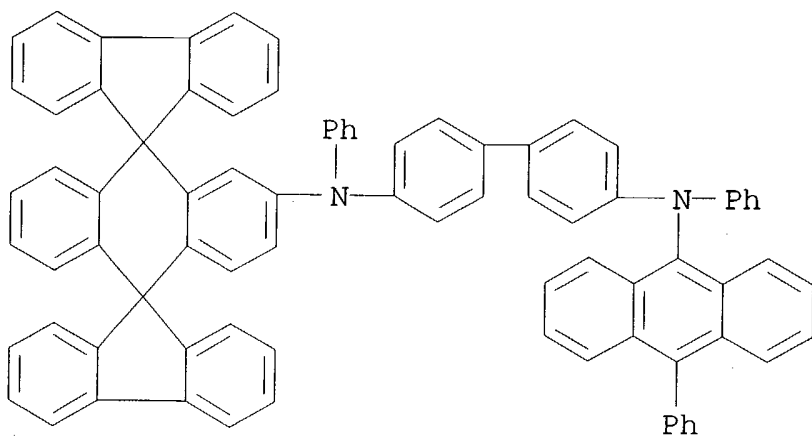
RN 474688-63-6 ZCAPLUS

CN 9H-Carbazole, 9,9'-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2',6'-diylbis- (9CI) (CA INDEX NAME)



RN 474688-64-7 ZCAPLUS

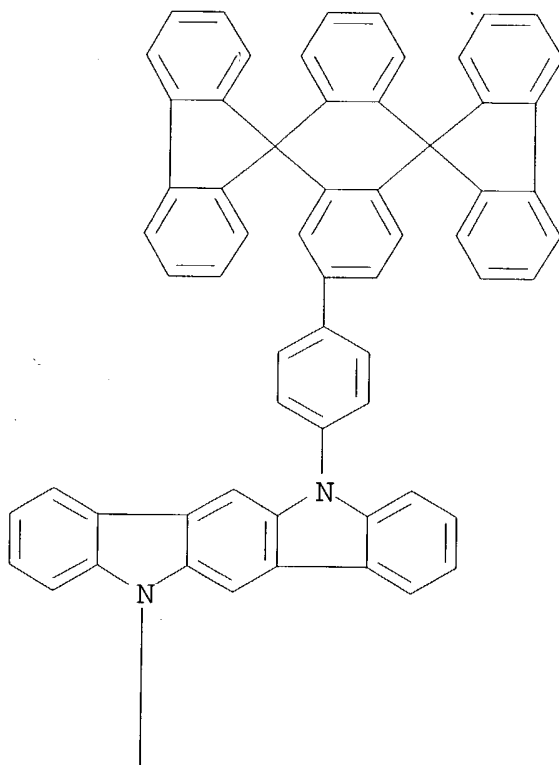
CN [1,1'-Biphenyl]-4,4'-diamine, N-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2'-yl-N,N'-diphenyl-N'-(10-phenyl-9-anthracenyl)- (9CI) (CA INDEX NAME)



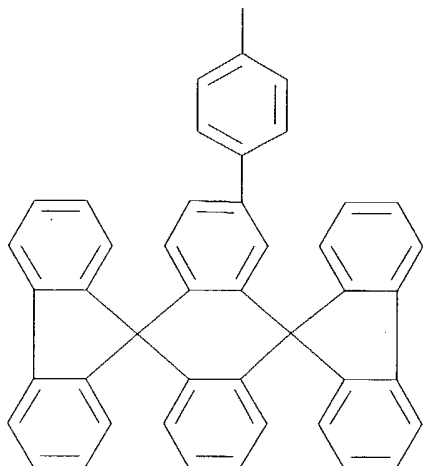
RN 474688-65-8 ZCAPLUS

CN Indolo[3,2-b]carbazole, 5,11-bis(4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylphenyl)-5,11-dihydro- (9CI)
(CA INDEX NAME)

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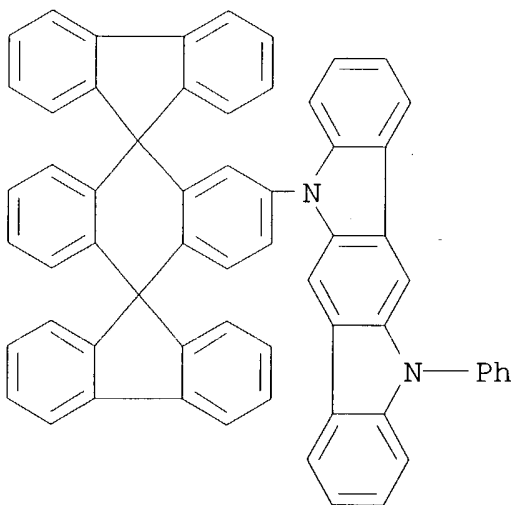


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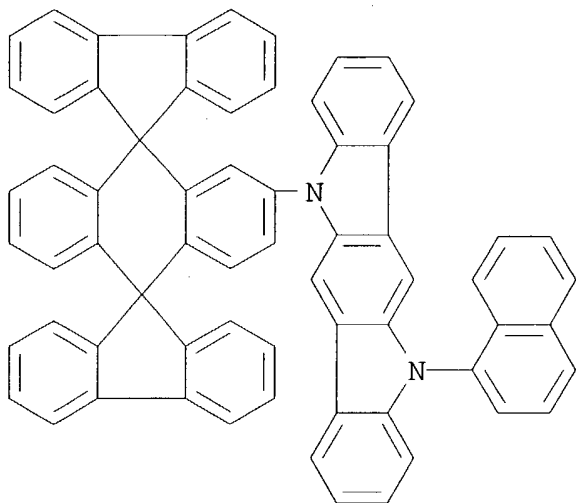
RN 474688-66-9 ZCAPLUS

CN Indolo[3,2-b]carbazole, 5-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-5,11-dihydro-11-phenyl- (9CI) (CA INDEX NAME)



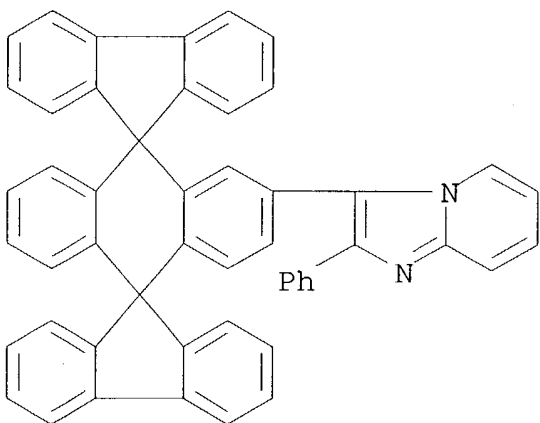
RN 474688-67-0 ZCAPLUS

CN Indolo[3,2-b]carbazole, 5-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-5,11-dihydro-11-(1-naphthalenyl)- (9CI) (CA INDEX NAME)



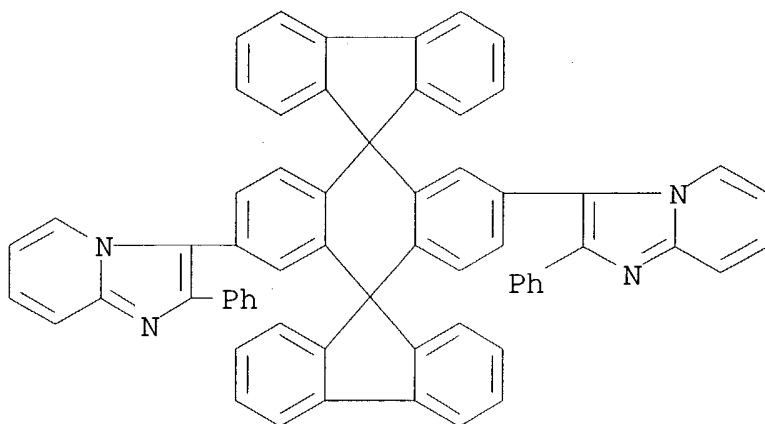
RN 474688-68-1 ZCAPLUS

CN Imidazo[1,2-a]pyridine, 3-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-2-phenyl- (9CI) (CA INDEX NAME)



RN 474688-69-2 ZCAPLUS

CN Imidazo[1,2-a]pyridine, 3,3'-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2',6'-diylbis[2-phenyl- (9CI) (CA INDEX NAME)

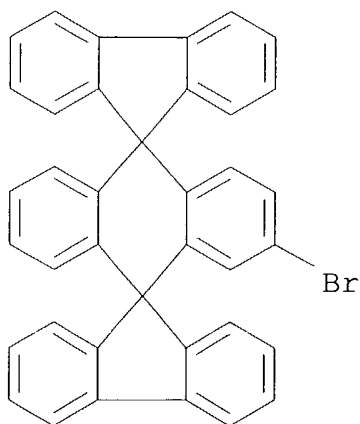


IT 474687-62-2P 474687-68-8P 474687-70-2P
 474687-74-6P 474687-77-9P 474687-79-1P
 474687-82-6P 474687-85-9P 474687-87-1P
 474687-88-2P

(double-spiro org. compds. and electroluminescent devices using them)

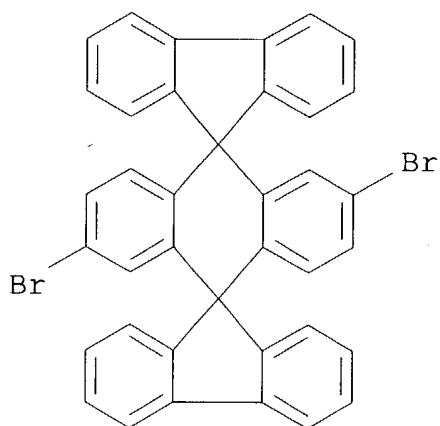
RN 474687-62-2 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
 2'-bromo- (9CI) (CA INDEX NAME)



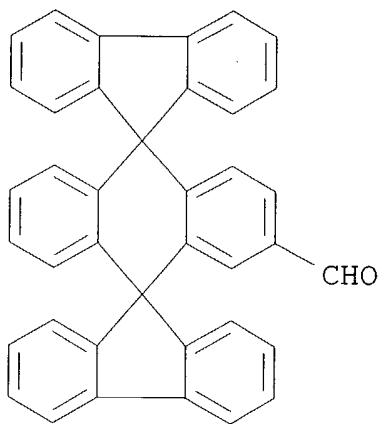
RN 474687-68-8 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
 2',6'-dibromo- (9CI) (CA INDEX NAME)



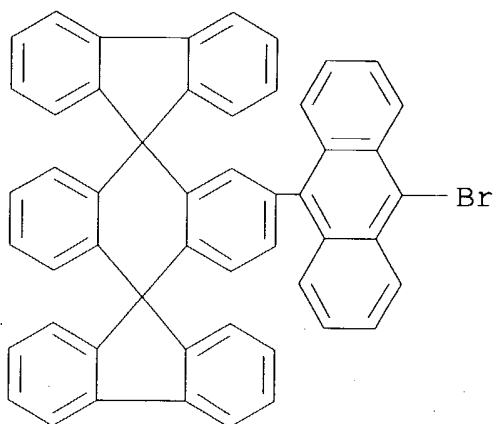
RN 474687-70-2 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2'-carboxaldehyde (9CI) (CA INDEX NAME)

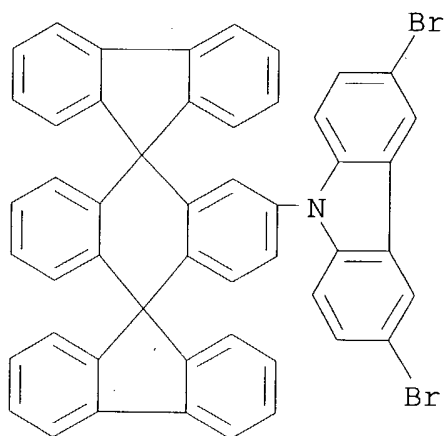


RN 474687-74-6 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene], 2'-(10-bromo-9-anthracenyl)- (9CI) (CA INDEX NAME)

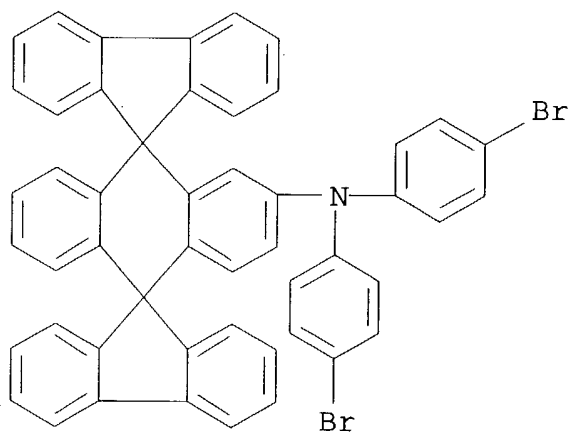


RN 474687-77-9 ZCAPLUS

CN 9H-Carbazole, 3,6-dibromo-9-dispiro[9H-fluorene-9,9'(10'H)-
anthracene-10',9''-[9H]fluoren]-2'-yl- (9CI) (CA INDEX NAME)

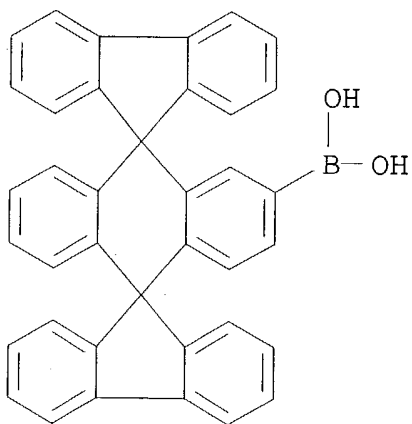
RN 474687-79-1 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-
amine, N,N-bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



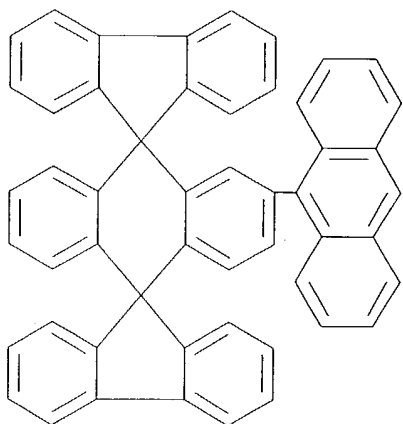
RN 474687-82-6 ZCAPLUS

CN Boronic acid, dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2'-yl- (9CI) (CA INDEX NAME)



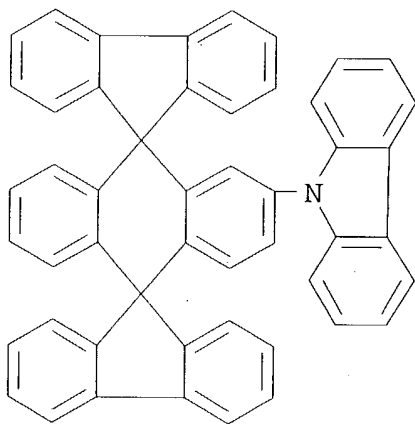
RN 474687-85-9 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene], 2'-(9-anthracenyl)- (9CI) (CA INDEX NAME)



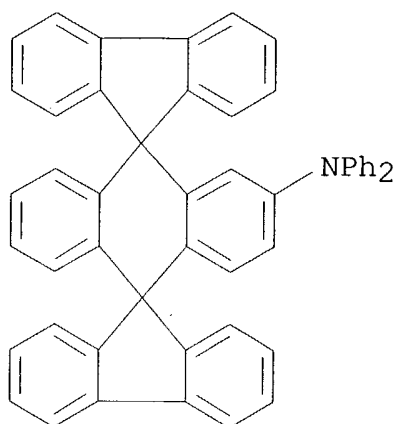
RN 474687-87-1 ZCAPLUS

CN 9H-Carbazole, 9-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl- (9CI) (CA INDEX NAME)



RN 474687-88-2 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-amine, N,N-diphenyl- (9CI) (CA INDEX NAME)

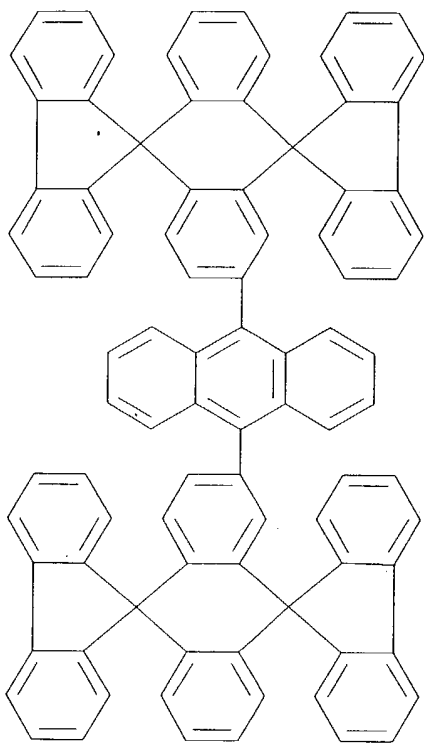


IT 474687-91-7P 474687-92-8P 474687-94-0P
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(double-spiro org. compds. and electroluminescent devices using them)

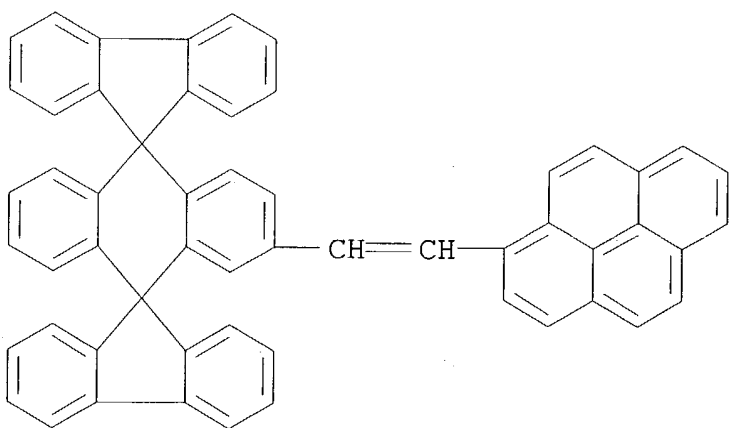
RN 474687-91-7 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',2''''-(9,10-anthracenediyl)bis- (9CI) (CA INDEX NAME)



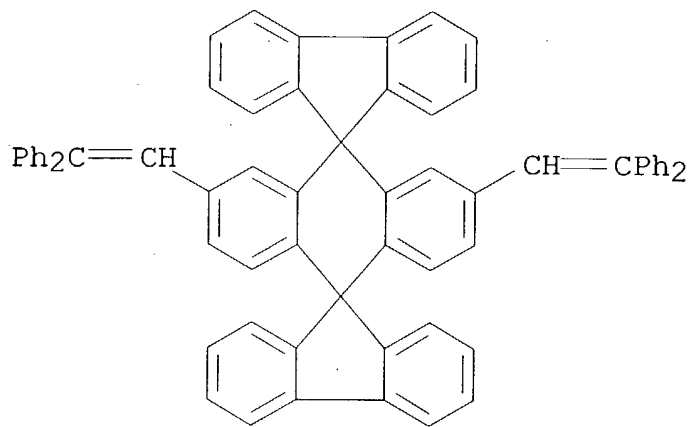
RN 474687-92-8 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-[2-(1-pyrenyl)ethenyl]- (9CI) (CA INDEX NAME)



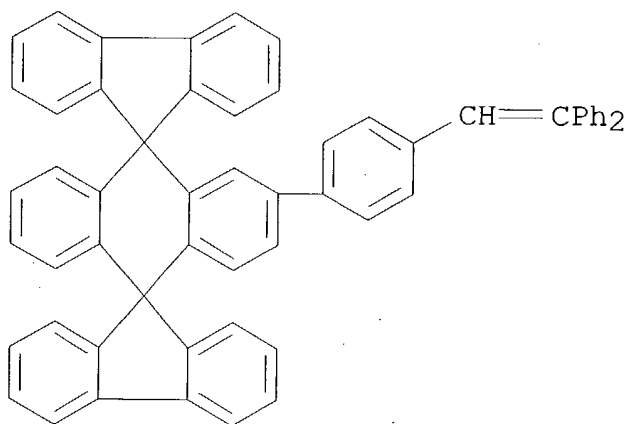
RN 474687-94-0 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',7'-bis(2,2-diphenylethenyl)- (9CI) (CA INDEX NAME)



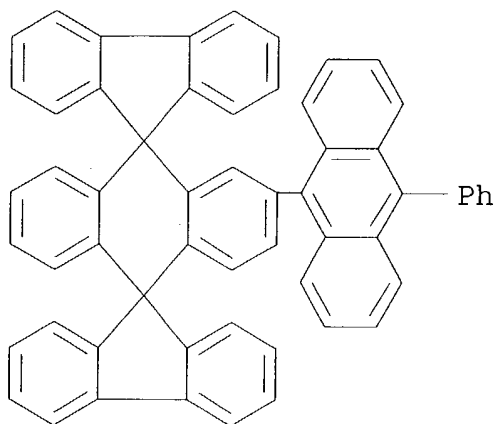
RN 474687-96-2 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-[4-(2,2-diphenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

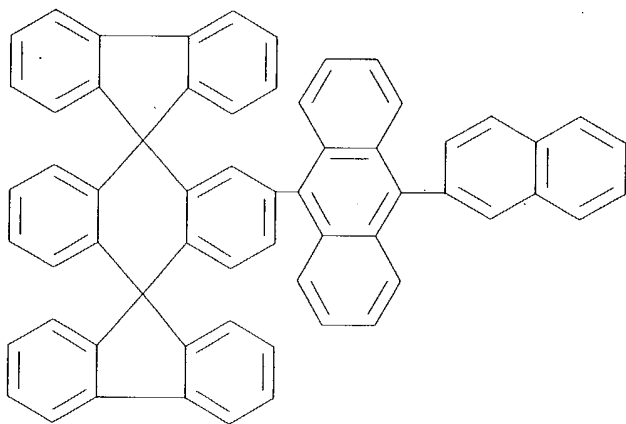


RN 474687-98-4 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(10-phenyl-9-anthracenyl)- (9CI) (CA INDEX NAME)

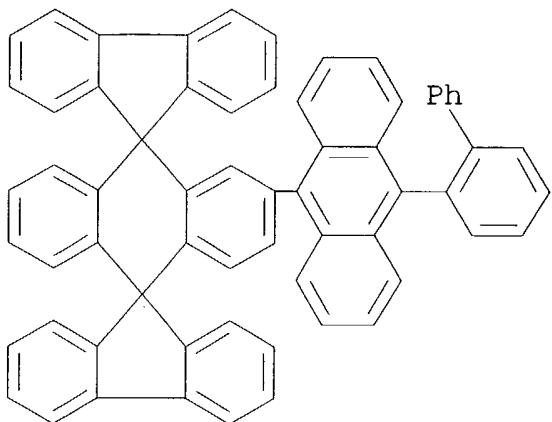


RN 474687-99-5 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-[10-(2-naphthalenyl)-9-anthracenyl]- (9CI) (CA INDEX NAME)

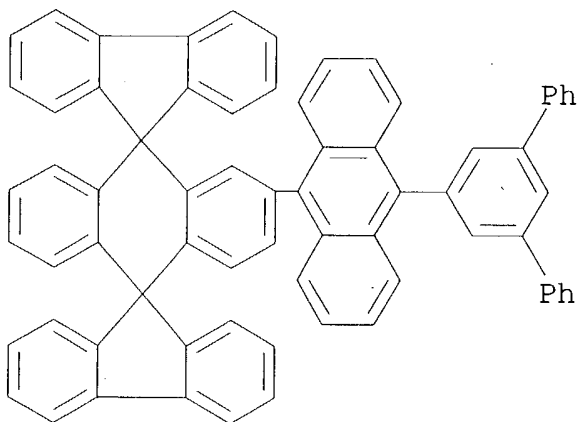
RN 474688-00-1 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(10-[1,1'-biphenyl]-2-yl-9-anthracenyl)- (9CI) (CA INDEX NAME)



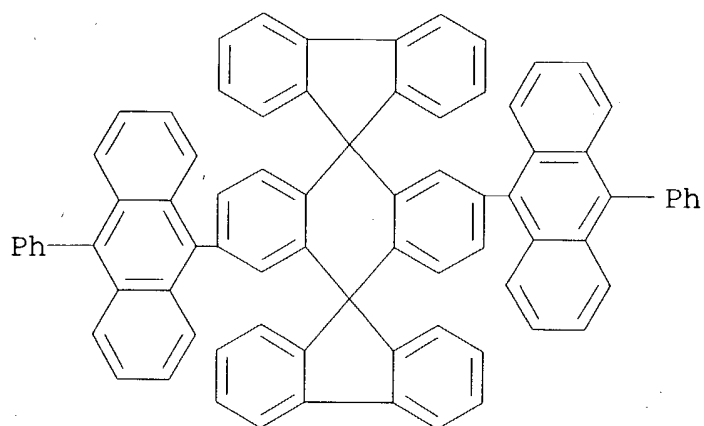
RN 474688-02-3 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(10-[1,1':3',1''-terphenyl]-5'-yl-9-anthracenyl)-(9CI) (CA
INDEX NAME)



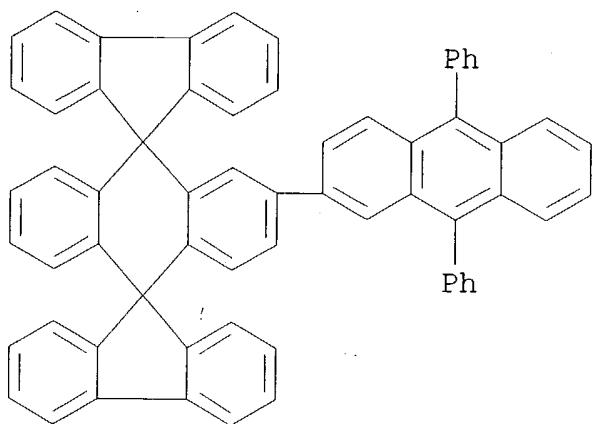
RN 474688-03-4 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2',6'-bis(10-phenyl-9-anthracenyl)-(9CI) (CA INDEX NAME)



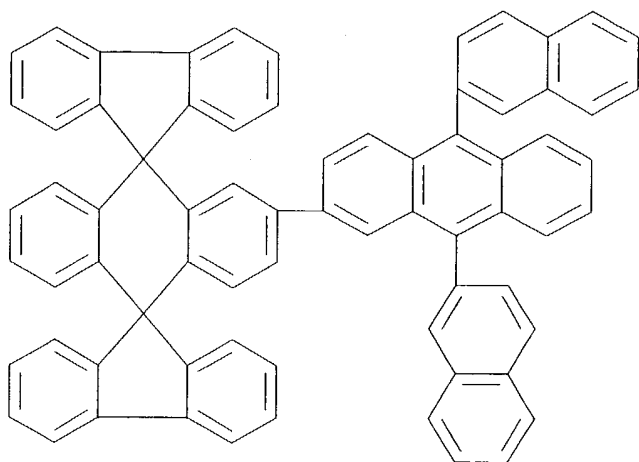
RN 474688-05-6 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(9,10-diphenyl-2-anthracenyl)-(9CI) (CA INDEX NAME).



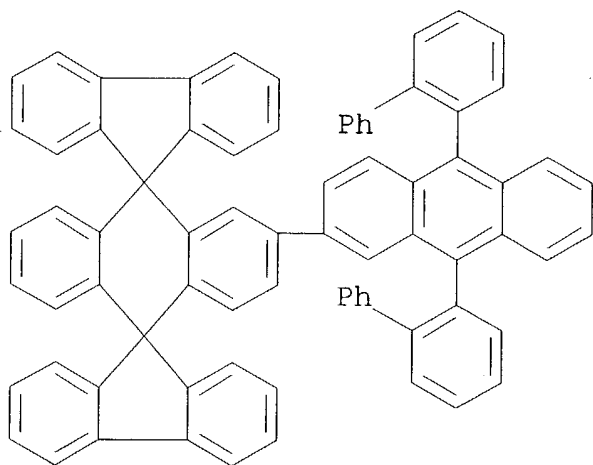
RN 474688-06-7 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-(9,10-di-2-naphthalenyl-2-anthracenyl)-(9CI) (CA INDEX NAME)



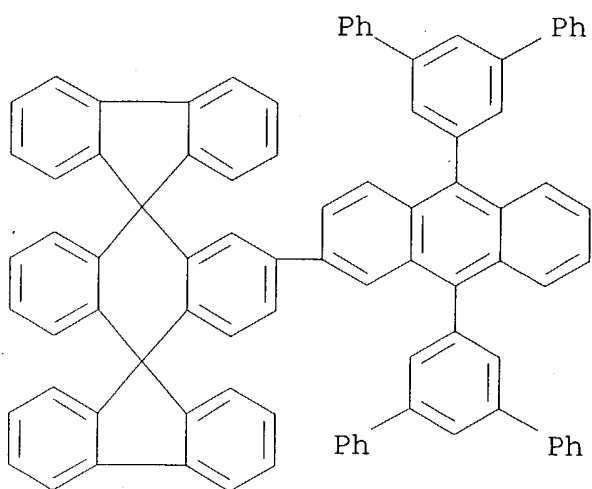
RN 474688-07-8 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-[9,10-bis([1,1'-biphenyl]-2-yl)-2-anthracenyl]- (9CI) (CA INDEX
NAME)



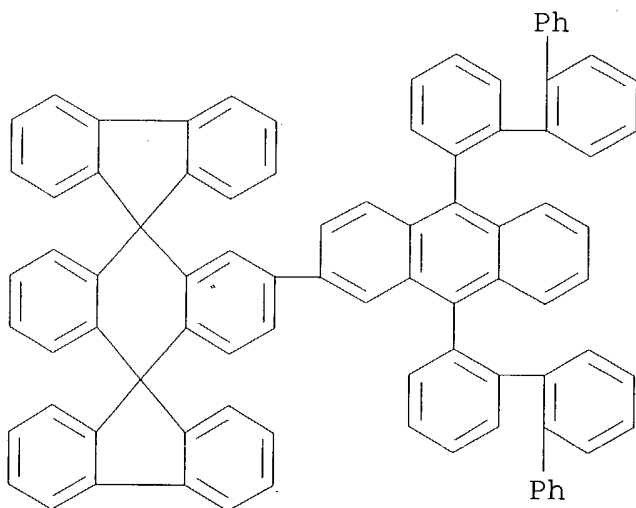
RN 474688-08-9 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-[9,10-bis([1,1':3',1''-terphenyl]-5'-yl)-2-anthracenyl]- (9CI)
(CA INDEX NAME)



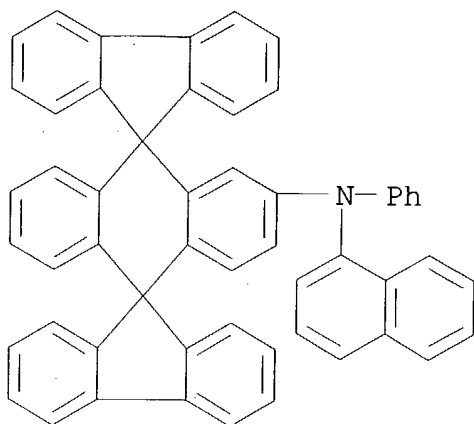
RN 474688-24-9 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene],
2'-[9,10-bis([1,1':2',1''-terphenyl]-2-yl)-2-anthracenyl]- (9CI)
(CA INDEX NAME)



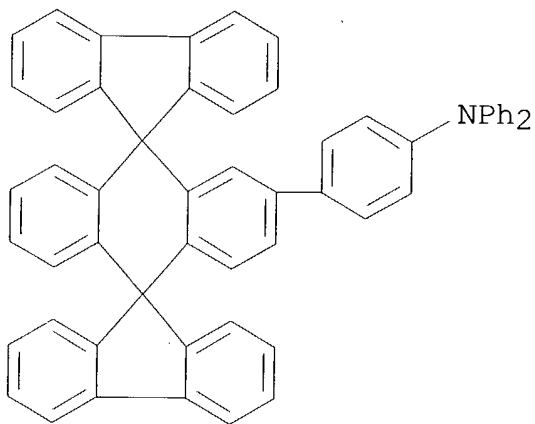
RN 474688-49-8 ZCAPLUS

CN Dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluorene]-2'-
amine, N-1-naphthalenyl-N-phenyl- (9CI) (CA INDEX NAME)



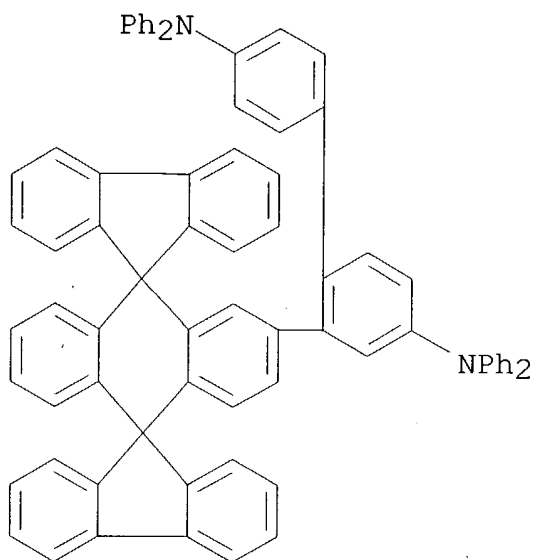
RN 474688-51-2 ZCAPLUS

CN Benzenamine, 4-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-N,N-diphenyl- (9CI) (CA INDEX NAME)



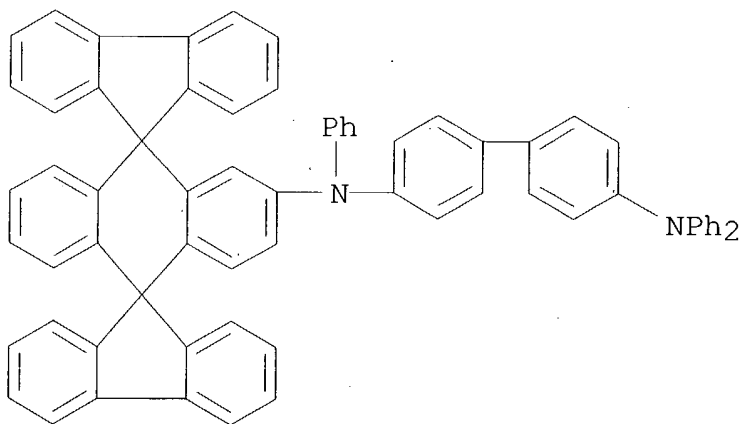
RN 474688-53-4 ZCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, 2-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-N,N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)



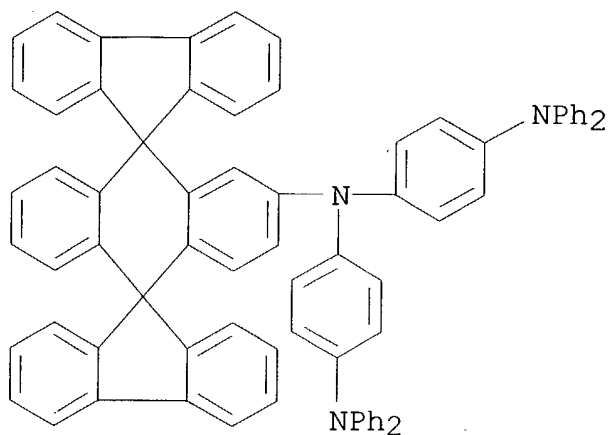
RN 474688-55-6 ZCAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-N,N',N'-triphenyl- (9CI) (CA INDEX NAME)



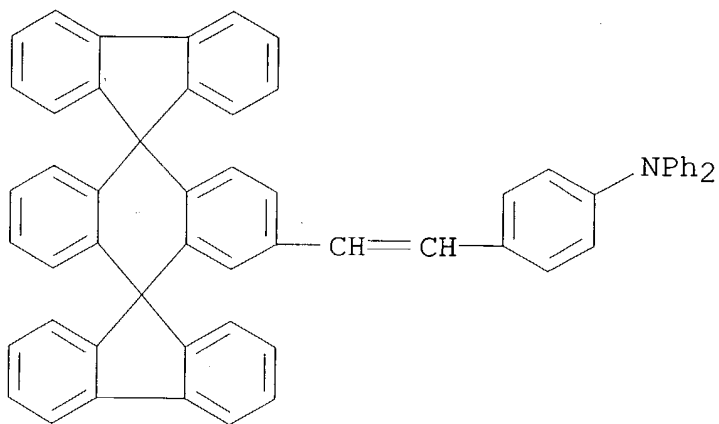
RN 474688-56-7 ZCAPLUS

CN 1,4-Benzenediamine, N-[4-(diphenylamino)phenyl]-N-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-N,N'-diphenyl- (9CI) (CA INDEX NAME)



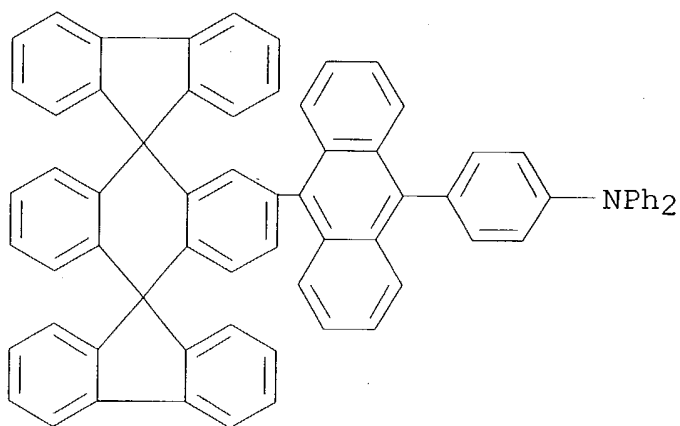
RN 474688-57-8 ZCAPLUS

CN Benzenamine, 4-(2-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-ylethenyl)-N,N-diphenyl- (9CI) (CA INDEX NAME)

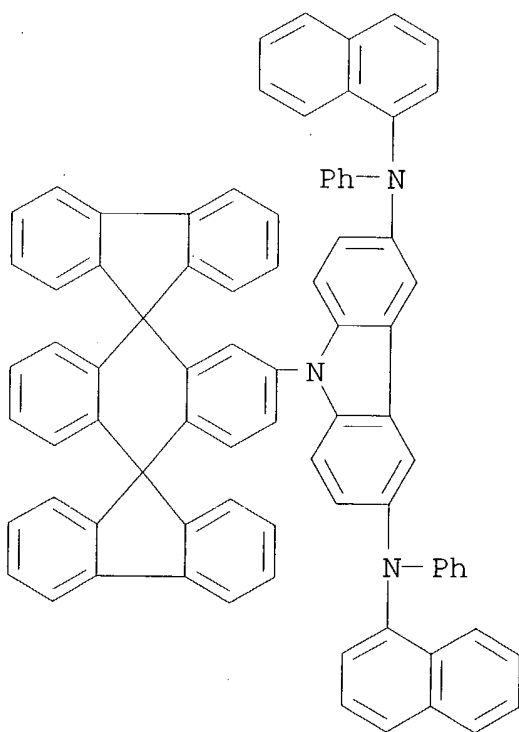


RN 474688-58-9 ZCAPLUS

CN Benzenamine, 4-(10-dispiro[9H-fluorene-9,9'(10'H)-anthracene-10',9''-[9H]fluoren]-2'-yl-9-anthracenyl)-N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 474688-60-3 ZCAPLUS
 CN 9H-Carbazole-3,6-diamine, 9-dispiro[9H-fluorene-9,9'(10'H)-
 anthracene-10',9''-[9H]fluoren]-2'-yl-N,N'-di-1-naphthalenyl-N,N'-
 diphenyl- (9CI) (CA INDEX NAME)



IT 474687-62-2D, derivs. 474687-68-8D, derivs.
 474687-72-4 474687-74-6D, derivs.

474687-77-9D, derivs. 474687-79-1D, derivs.

474687-89-3 474687-90-6 474687-93-9

474687-95-1 474687-97-3 474688-01-2

474688-04-5 474688-09-0 474688-10-3

474688-11-4 474688-12-5 474688-13-6

474688-14-7 474688-15-8 474688-16-9

474688-17-0 474688-18-1 474688-19-2

474688-20-5 474688-21-6 474688-22-7

474688-23-8 474688-25-0 474688-26-1

474688-27-2 474688-28-3 474688-29-4

474688-30-7 474688-31-8 474688-32-9

474688-33-0 474688-34-1 474688-35-2

474688-36-3 474688-37-4 474688-38-5

474688-39-6 474688-40-9 474688-41-0

474688-42-1 474688-43-2 474688-44-3

474688-45-4 474688-46-5 474688-47-6

474688-48-7 474688-50-1 474688-52-3

474688-54-5 474688-59-0 474688-61-4

474688-62-5 474688-63-6 474688-64-7

474688-65-8 474688-66-9 474688-67-0

474688-68-1 474688-69-2

(double-spiro org. compds. and electroluminescent devices using them)

IT 474687-62-2P 474687-68-8P 474687-70-2P

474687-74-6P 474687-77-9P 474687-79-1P

474687-82-6P 474687-85-9P 474687-87-1P

474687-88-2P

(double-spiro org. compds. and electroluminescent devices using them)

IT 474687-91-7P 474687-92-8P 474687-94-0P

474687-96-2P 474687-98-4P 474687-99-5P

474688-00-1P 474688-02-3P 474688-03-4P

474688-05-6P 474688-06-7P 474688-07-8P

474688-08-9P 474688-24-9P 474688-49-8P

474688-51-2P 474688-53-4P 474688-55-6P

474688-56-7P 474688-57-8P 474688-58-9P

474688-60-3P

(double-spiro org. compds. and electroluminescent devices using them)

REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT